

huSIP1	1	MRRRAE-----LAGLKTMAWVPAESAVEEELMPRLLP	30
XeSIP1	1	-----MPRLLP	6
Brr1	1	MKRGE SQAPDAITGQSRAFALSDS[VNPDVIEYLKS	36
huSIP1	31	VEPCDLTEGFDPSVPPRTPOEYLRRVOIEAAOCP-D	65
XeSIP1	7	VEACDLPEDYDPSVPPRTPOEYLRRVOIEAARCP-D	41
Brr1	37	VRQEA LR TN AISIKNHMNLQKRTRKSSMYDDEDEGA	72
huSIP1	66	VVVAOIDPKKLKRKQSVNISLSGCOPAPEGYSP---	98
XeSIP1	42	VVIAOIDPKKLKRKOTVSIISLSGCOPAPDGYSP---	74
Brr1	73	LKRHAISPSLIRLORNVEIWRWFNSVKATVLTNAY	108
huSIP1	99	-TLOWOOOQVAOFSTVRONVYNKHRSHWKSQO-----	128
XeSIP1	75	-SLRWOOOQVAOFSAVROS LHKH RGHWR SOP-----	104
Brr1	109	EFTGYEDETLDLLFLKNYLEDMPSKCTTVEKIIISV	144
huSIP1	129	LDSNVTMPKSED-----EEGWKKFCLG-----EKL	153
XeSIP1	105	LDSNVTMPSTED-----EESWKKFCLG-----ERL	129
Brr1	145	LNOHSFPEKAEKEENLQIDEEWAKNILVRLEKTKI	180
huSIP1	154	CADGAVGPATN-----ESPGIDYVOIGFPPLLS	181
XeSIP1	130	YSDLA AALNSE S-----OHPGIDYIKVGFPPPLLS	158
Brr1	181	DSEDEVKKVITEGDKHELVGYNQWFQYLINNEPQHTT	216
huSIP1	182	IVSRMNOATVTSVLEYLSN-WFGERD----FTPELG	212
XeSIP1	159	IVSRMSOATVTSVLEYLVN-WFEERN----FTPELG	189
Brr1	217	FHEKITSKQLWVLIKYMSNTWIKELHKKGRHYRRLQ	252
huSIP1	213	RWLYALLACLEKPLLPEAHSLIROLARRCSEVR--L	246
XeSIP1	190	RWLYALLACLEKPLLPEAHSLIROLARRCSOIR--A	223
Brr1	253	DWLFYILVHTPERVTAEYTSILRDLGKKCLELIQKK	288
huSIP1	247	LVDSKDD-----ERVPA LNLLI	263
XeSIP1	224	GVEHKED-----DRVSP LNLF I	240
Brr1	289	PVEAHENKITLPKEMAELNVEIPA AVENMTITELTV	324
huSIP1	264	CLVSRYFDORDLADE--PS	280
XeSIP1	241	CLVGRYFEORDLADCGDPS	259
Brr1	325	SVIAVNYGQKDLIE-----	338

FIG. 1

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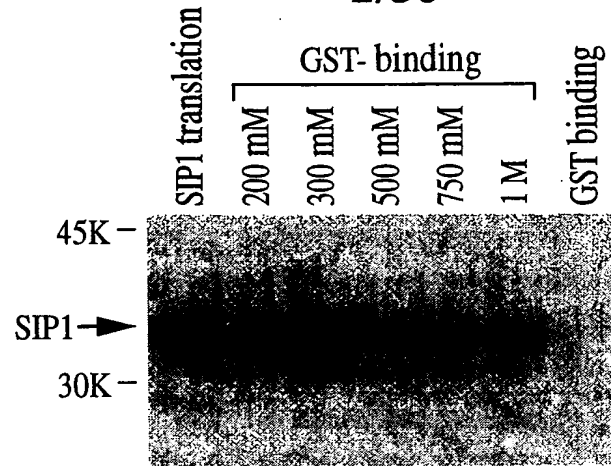


FIG. 2A

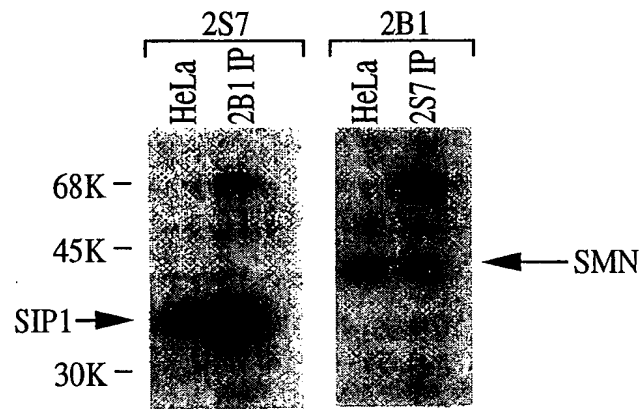


FIG. 2B

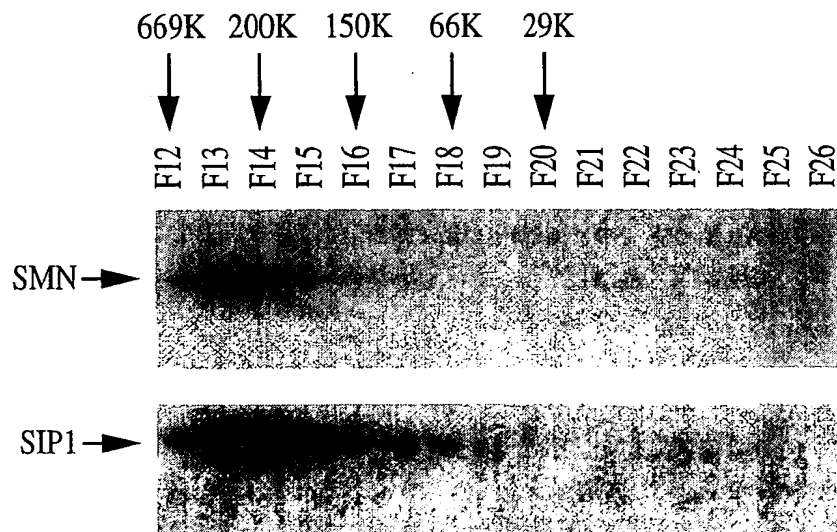


FIG. 2C

FIG. 3A

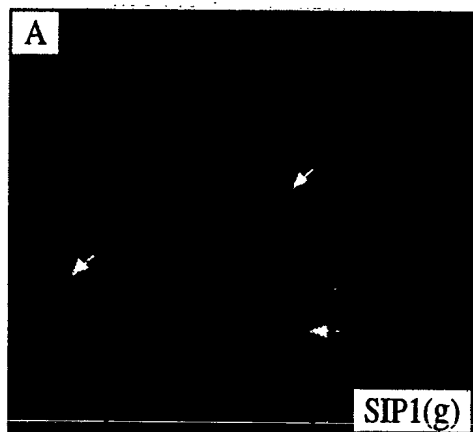


FIG. 3B

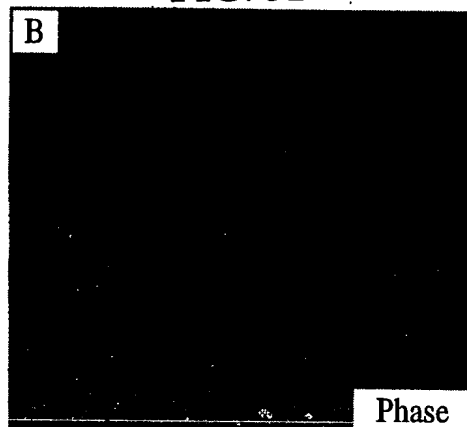


FIG. 3C

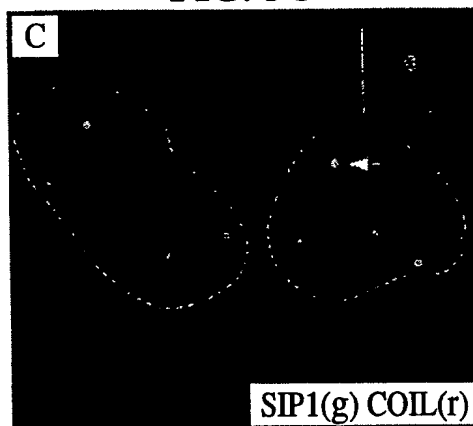


FIG. 3D

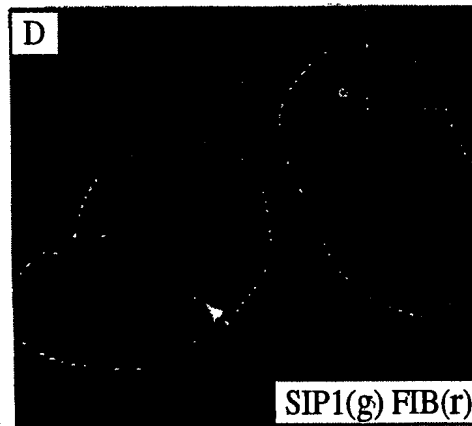


FIG. 3E



FIG. 3F



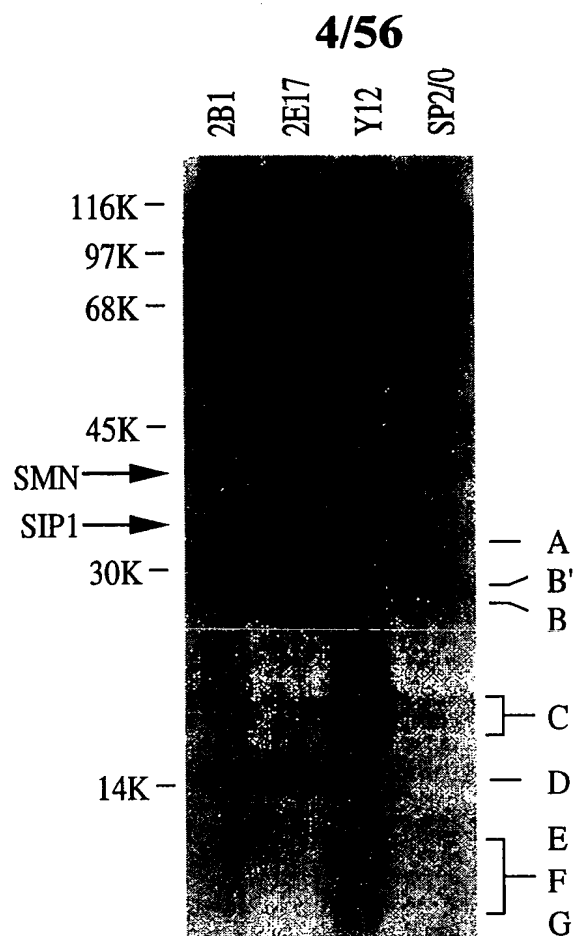


FIG. 4A

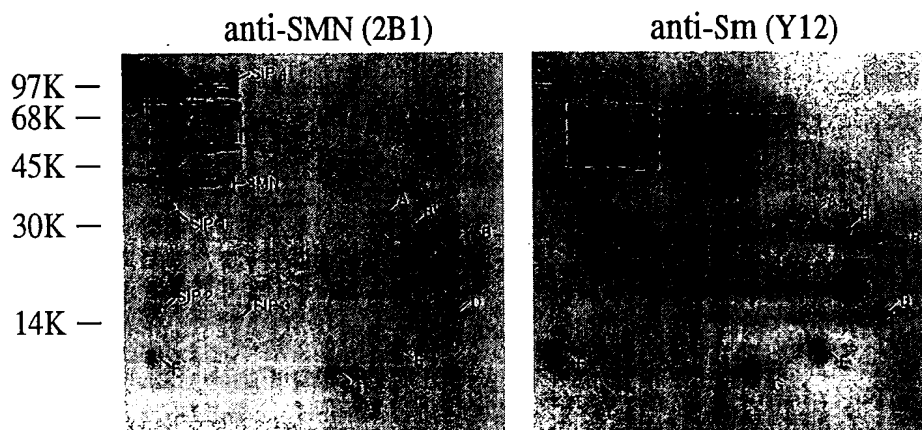


FIG. 4B

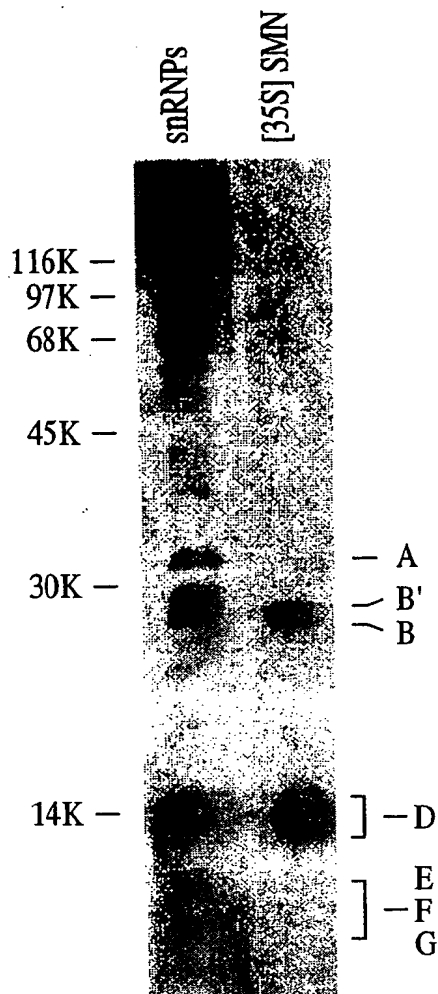


FIG. 5A

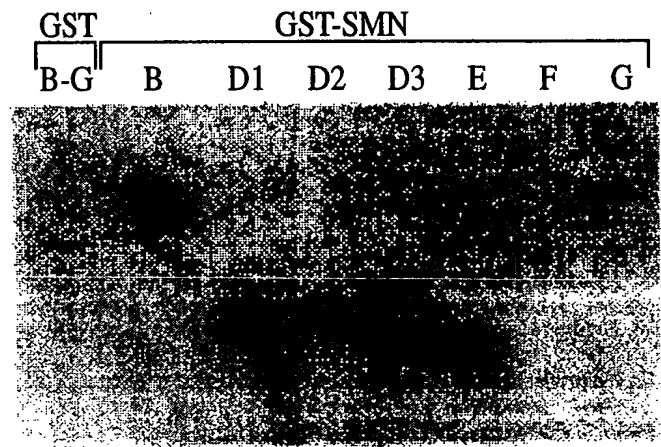


FIG. 5B

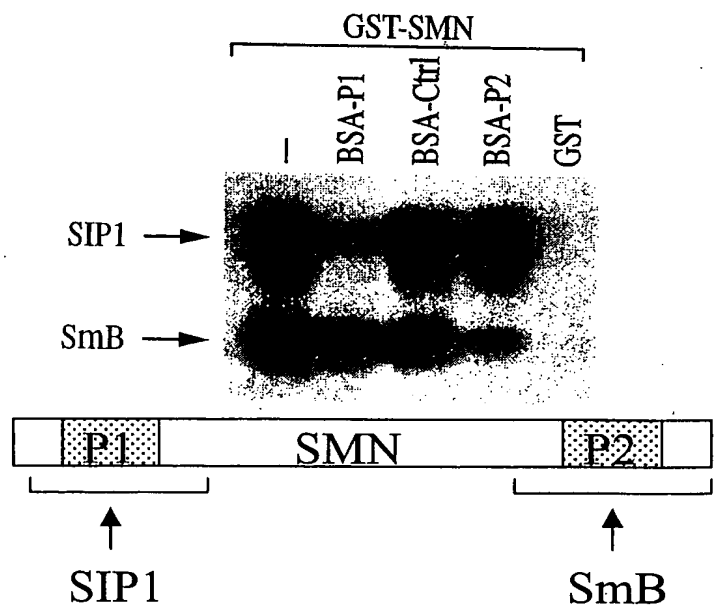


FIG. 5C

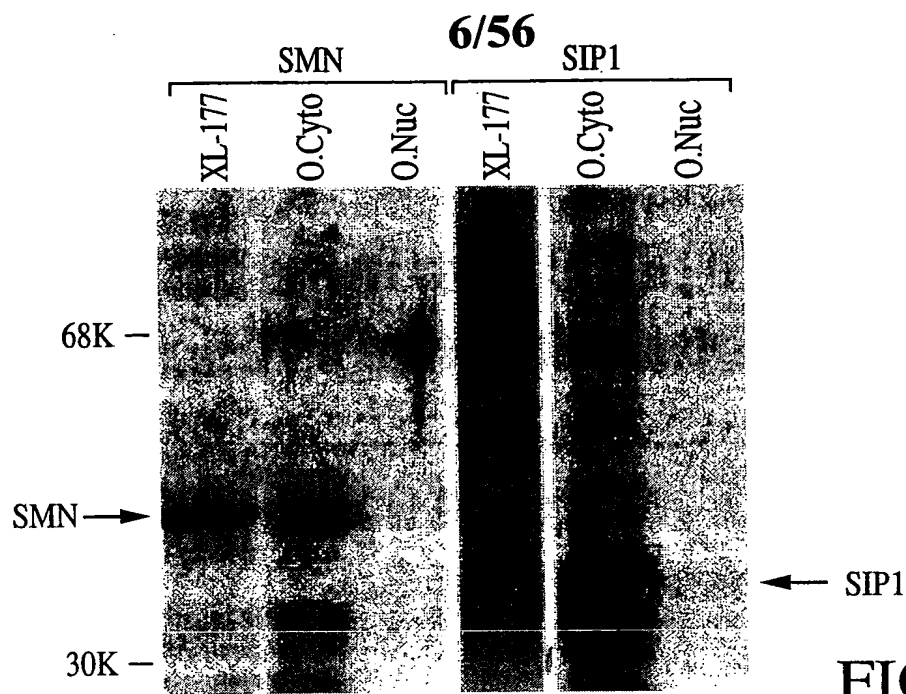


FIG. 6A

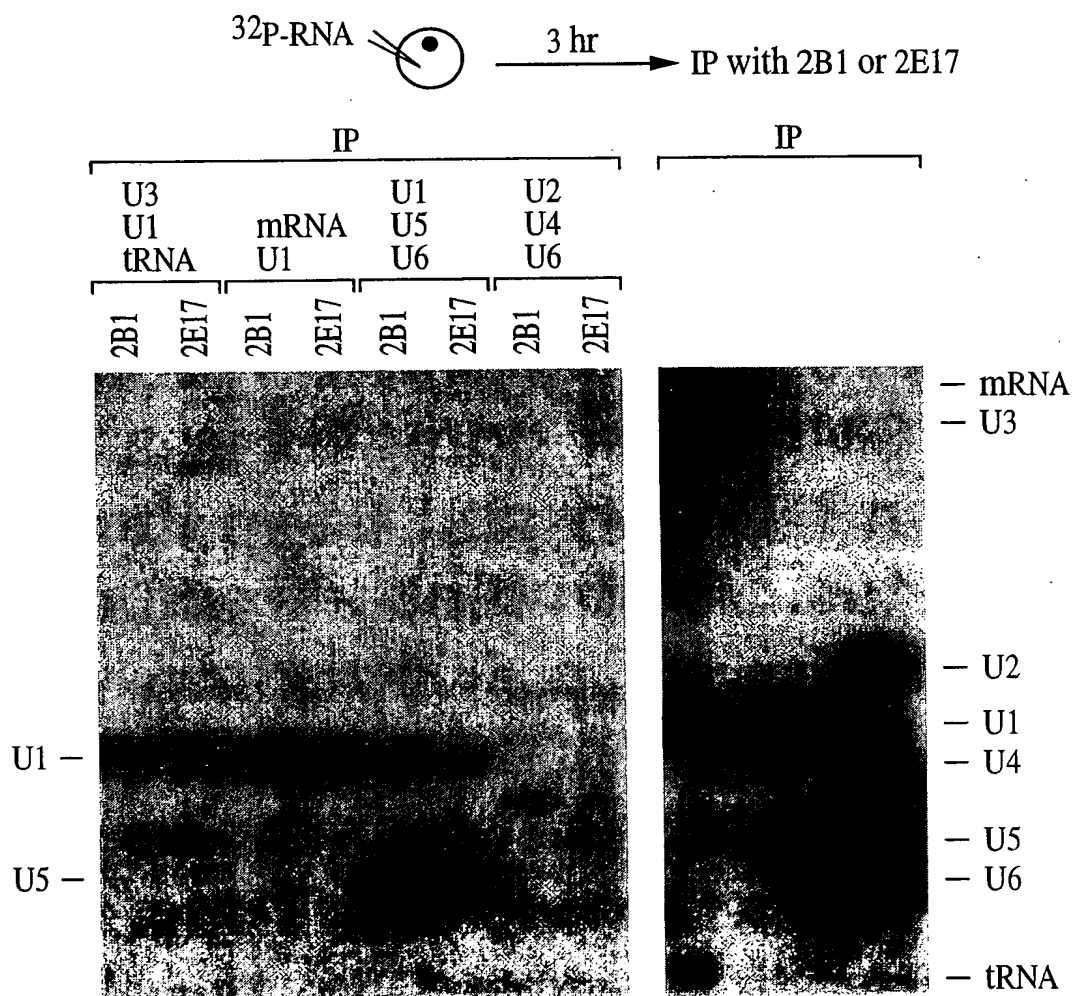


FIG. 6B

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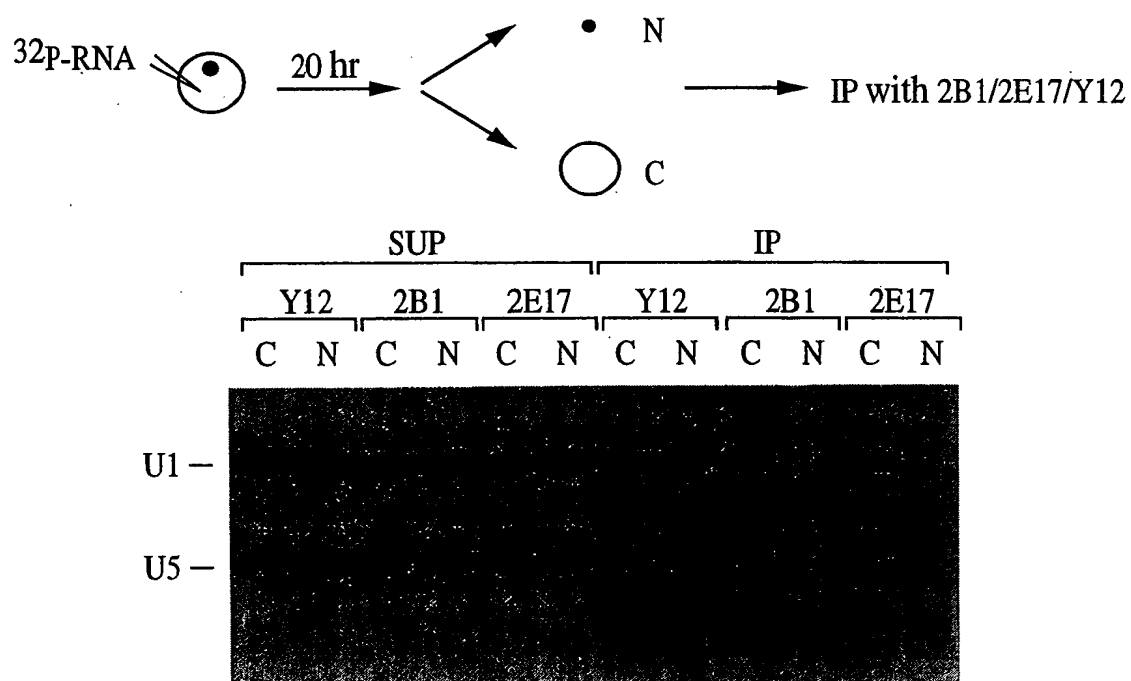
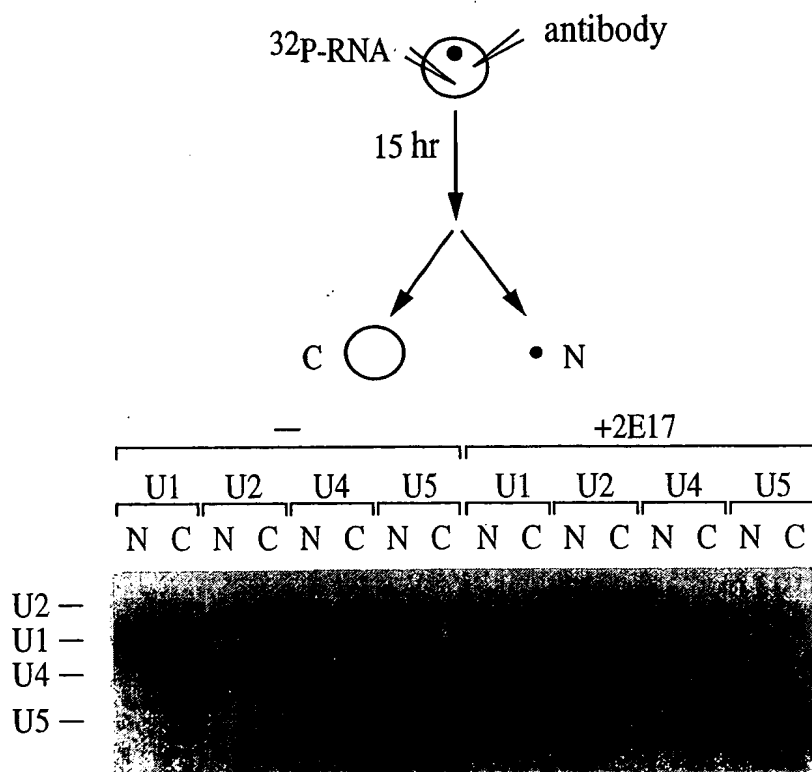
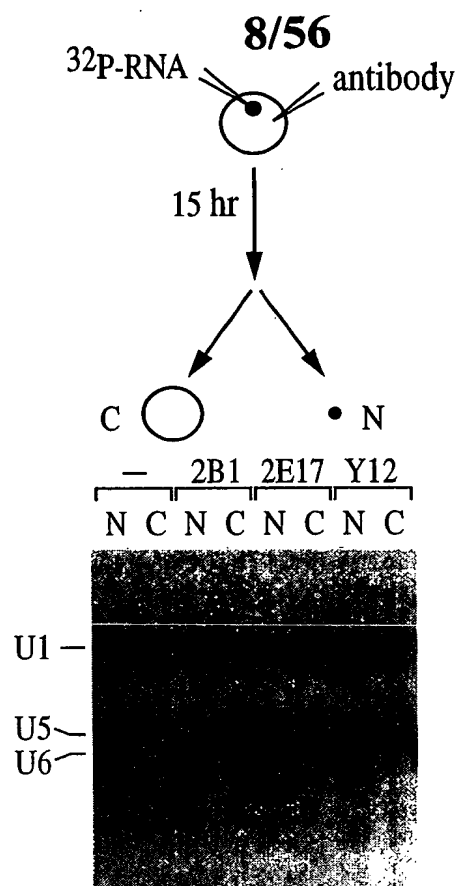


FIG. 7



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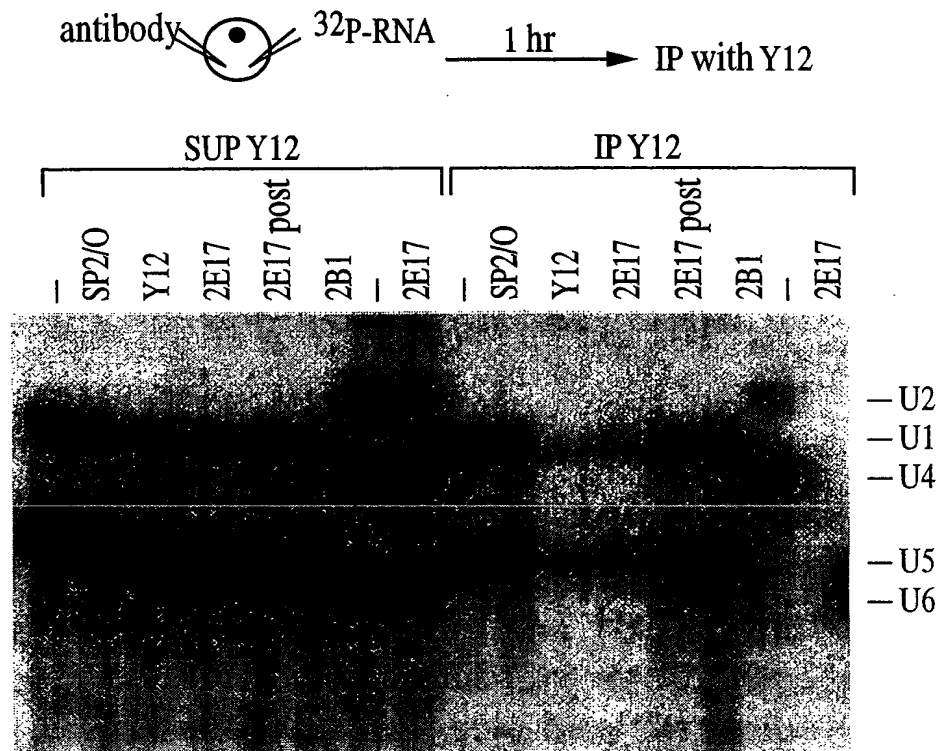


FIG. 9A

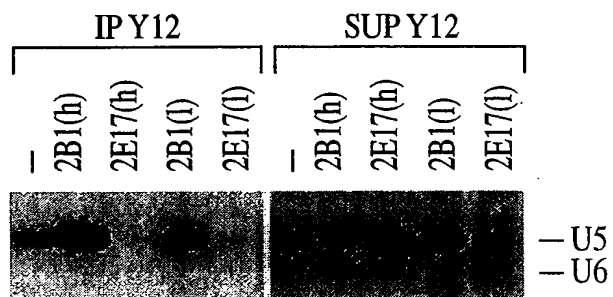


FIG. 9B

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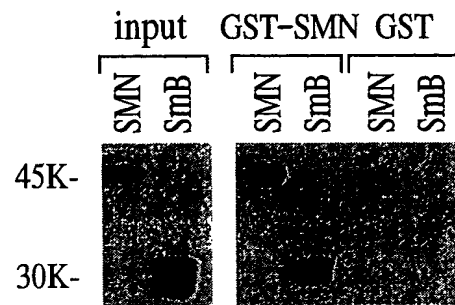


FIG. 10A

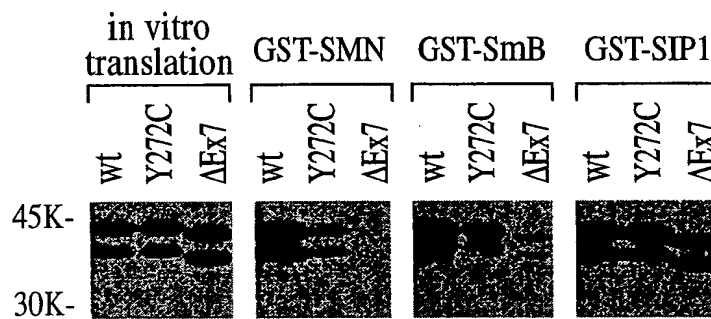


FIG. 10B

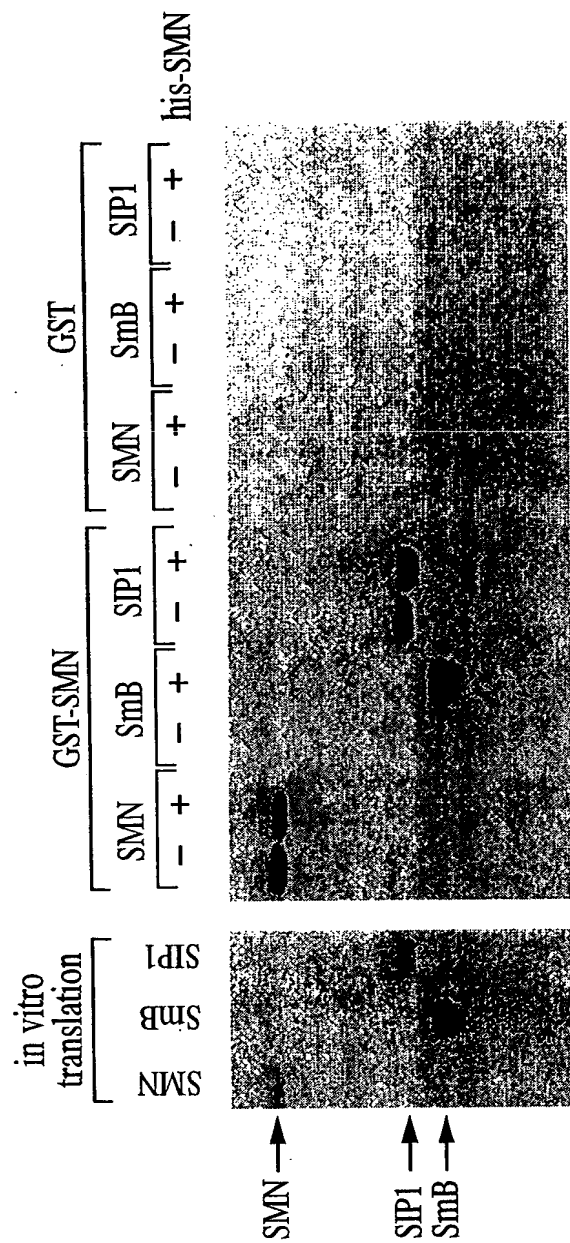


FIG. 11A

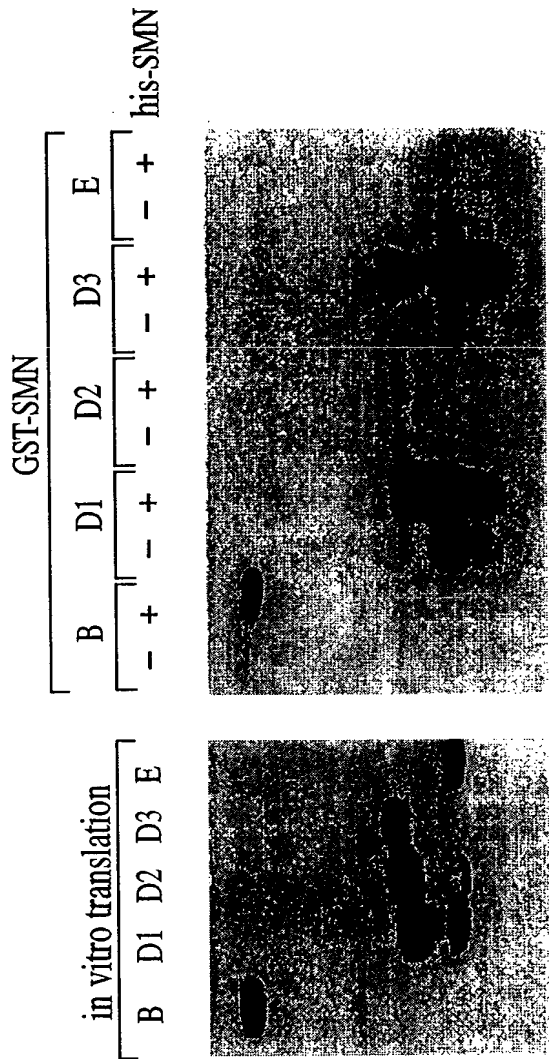


FIG. 11B

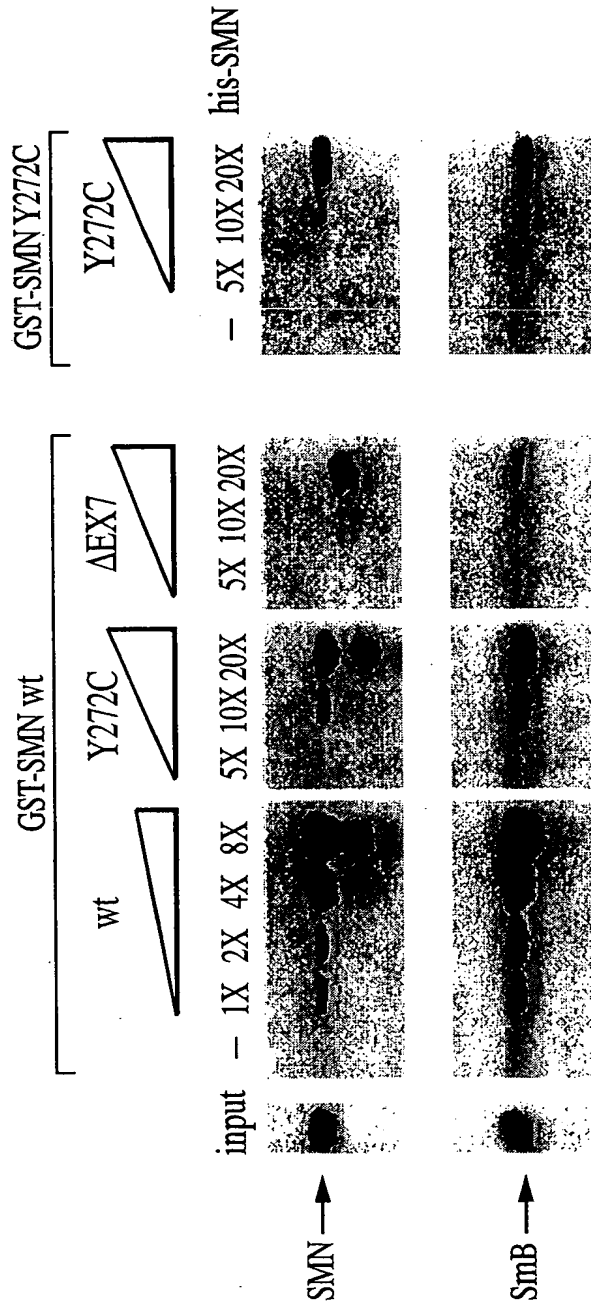


FIG. 12B

FIG. 12A

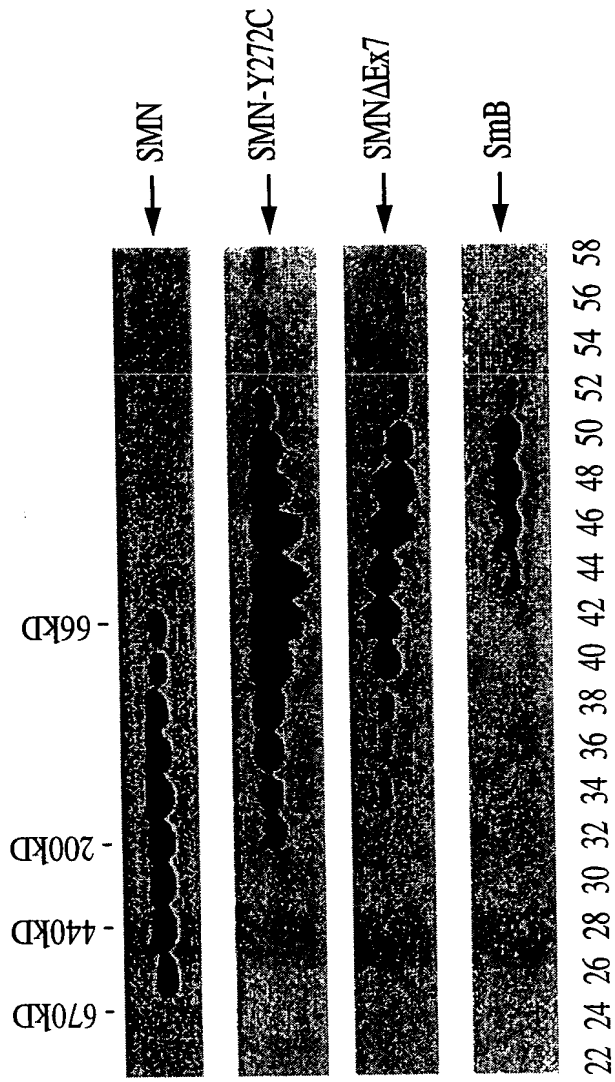


FIG. 13A

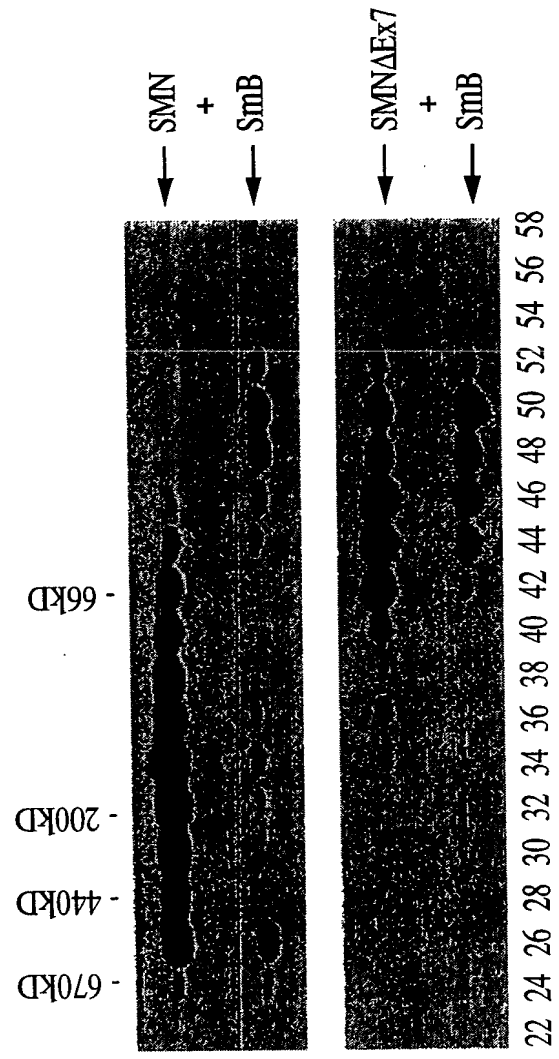


FIG. 13B

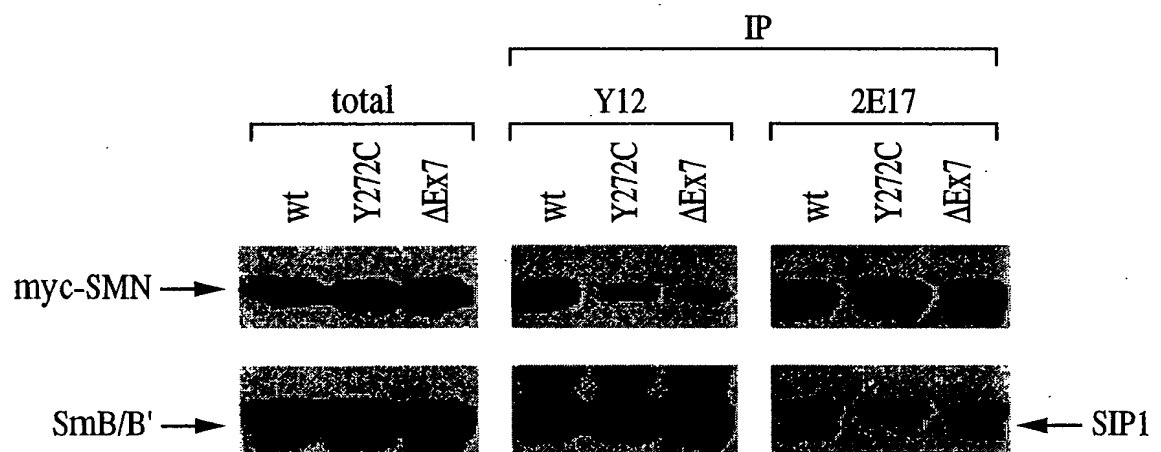


FIG. 14

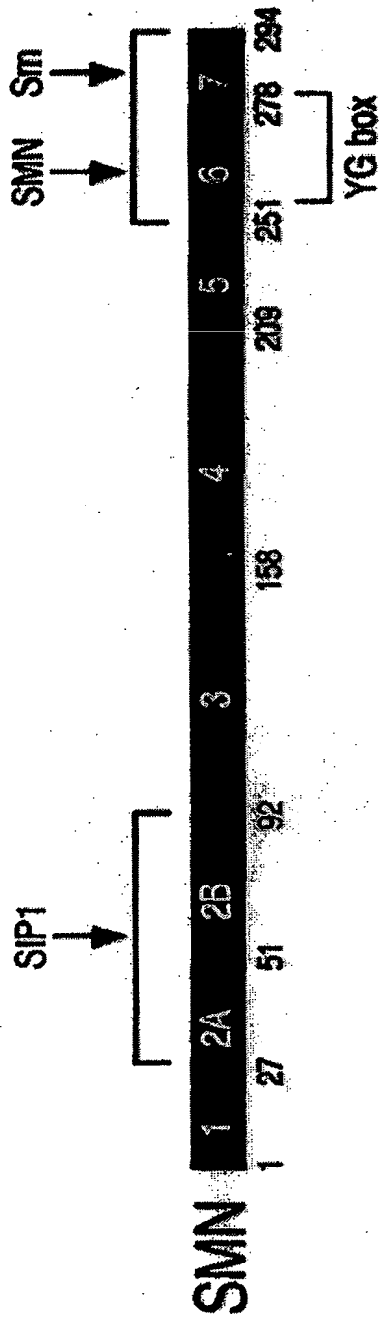


FIG. 15A

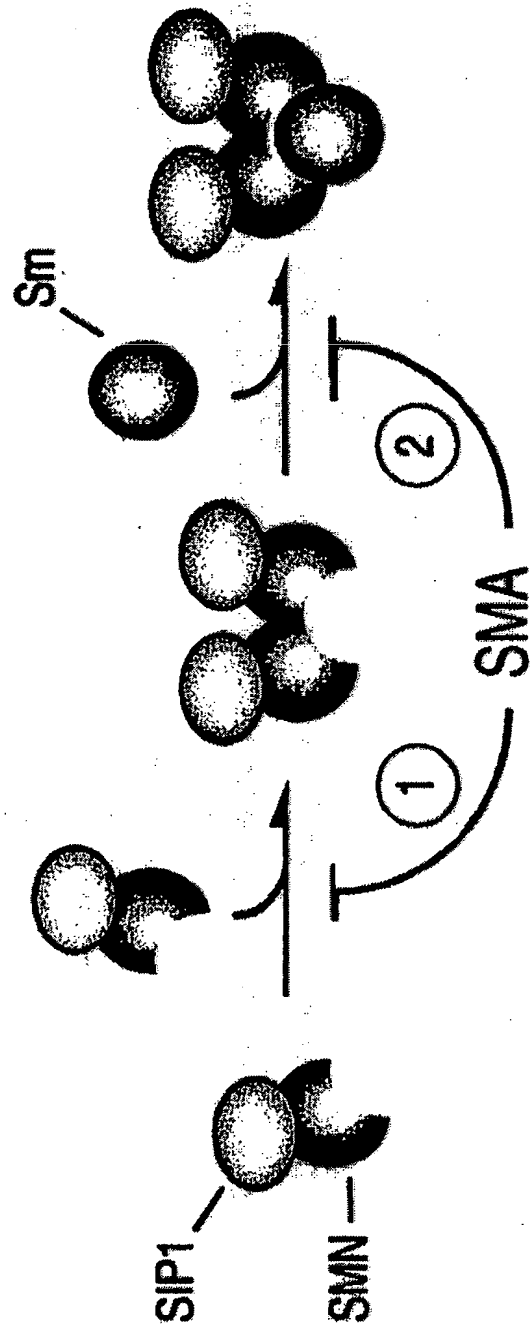
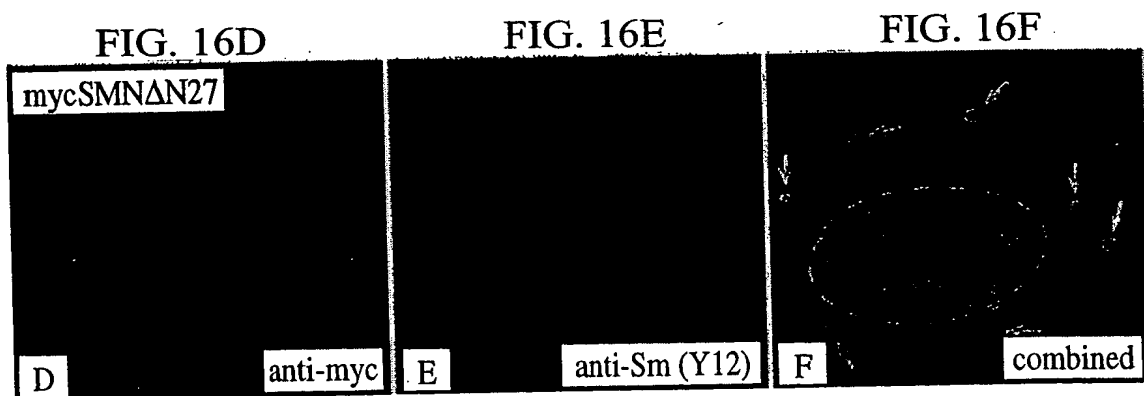
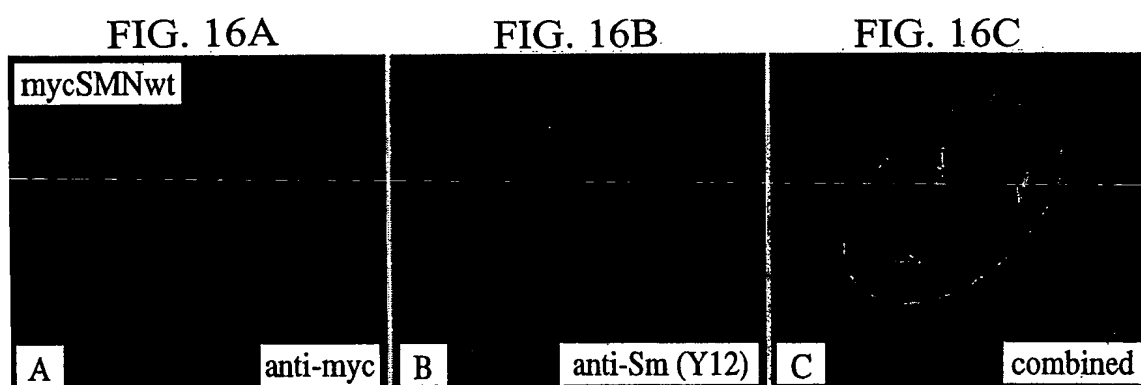
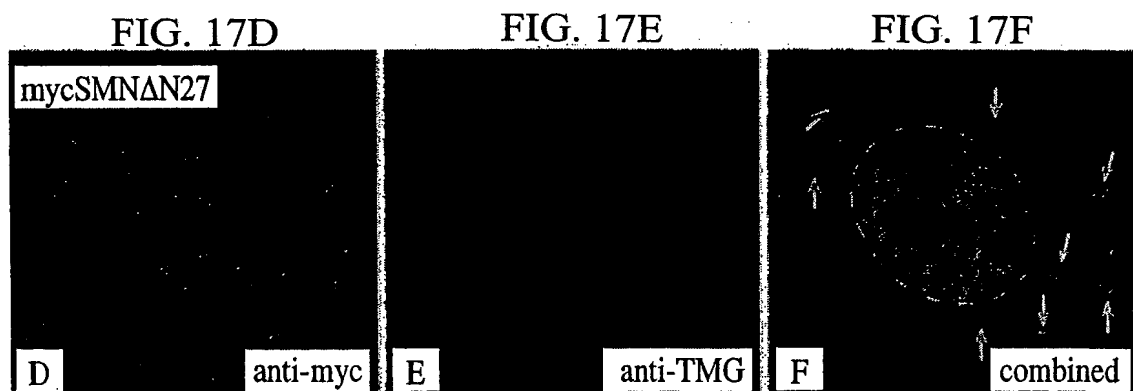
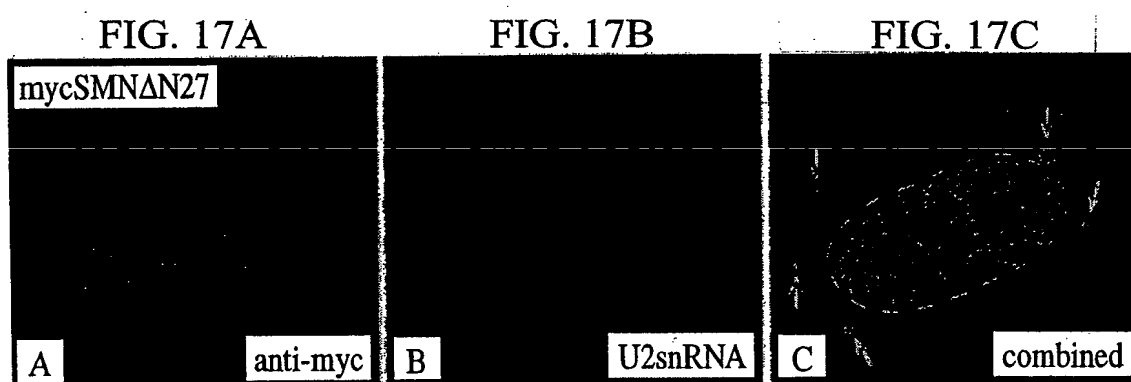
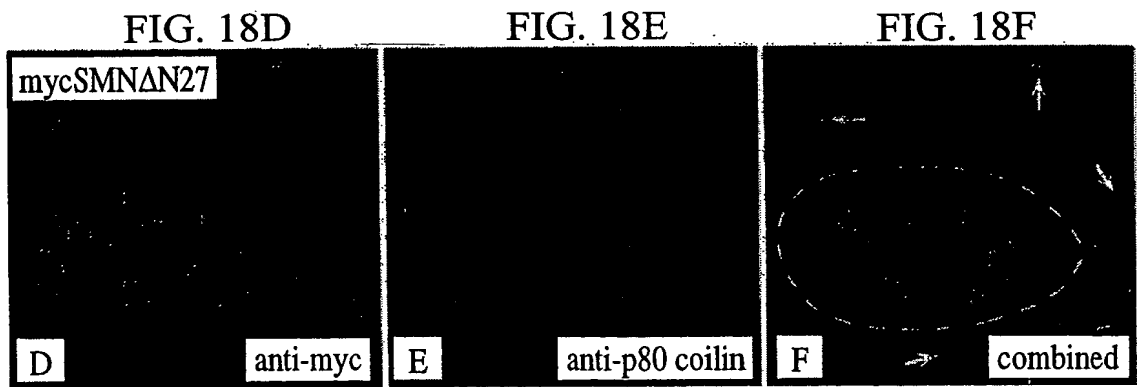
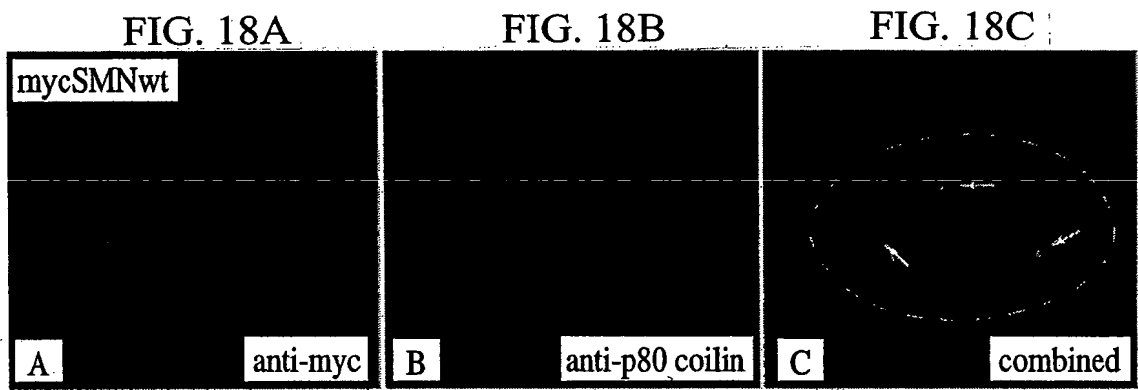
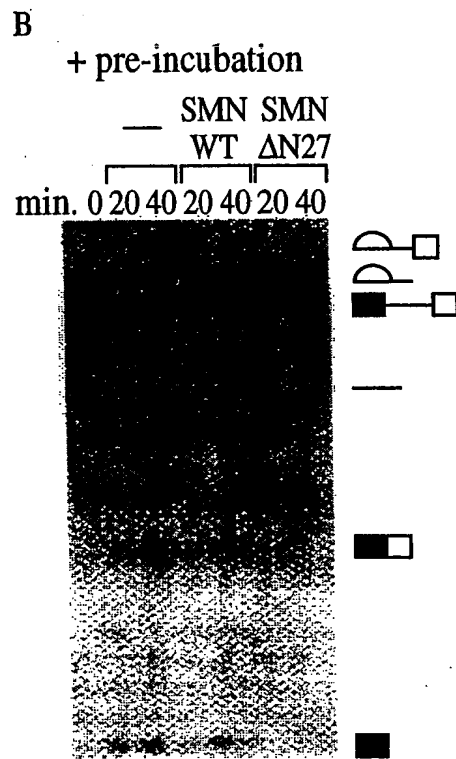
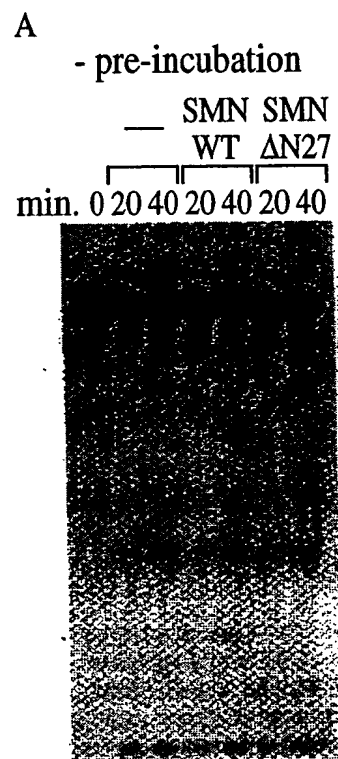


FIG. 15B









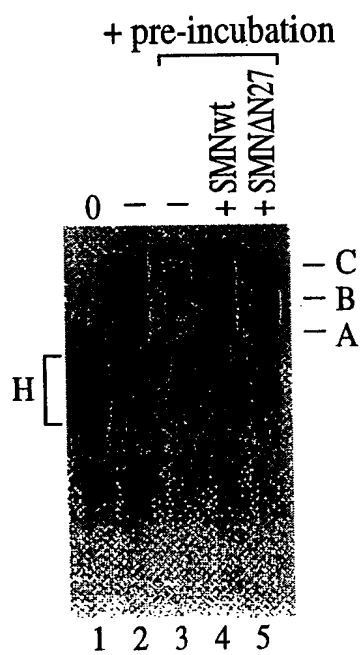


FIG. 20

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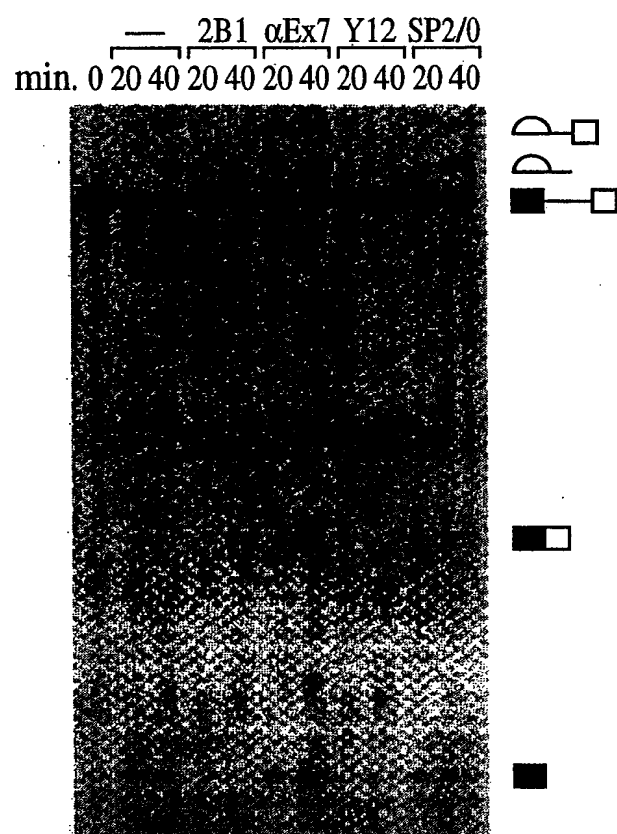


FIG. 21

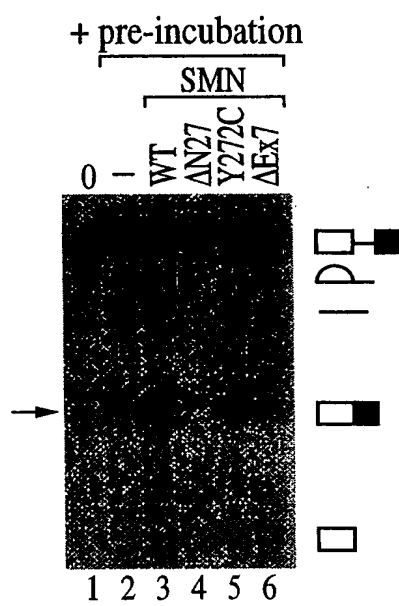


FIG. 22

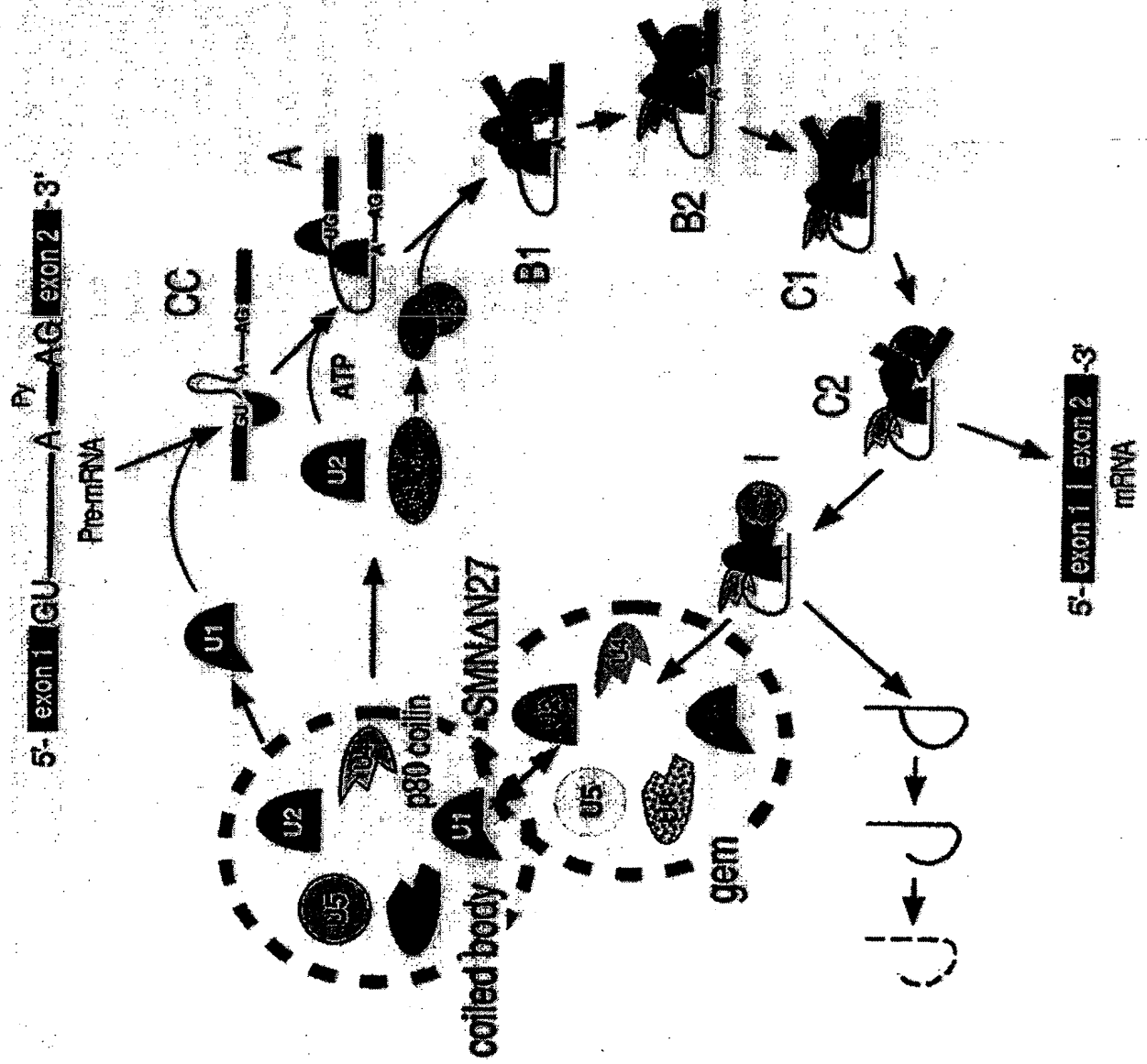


FIG. 23

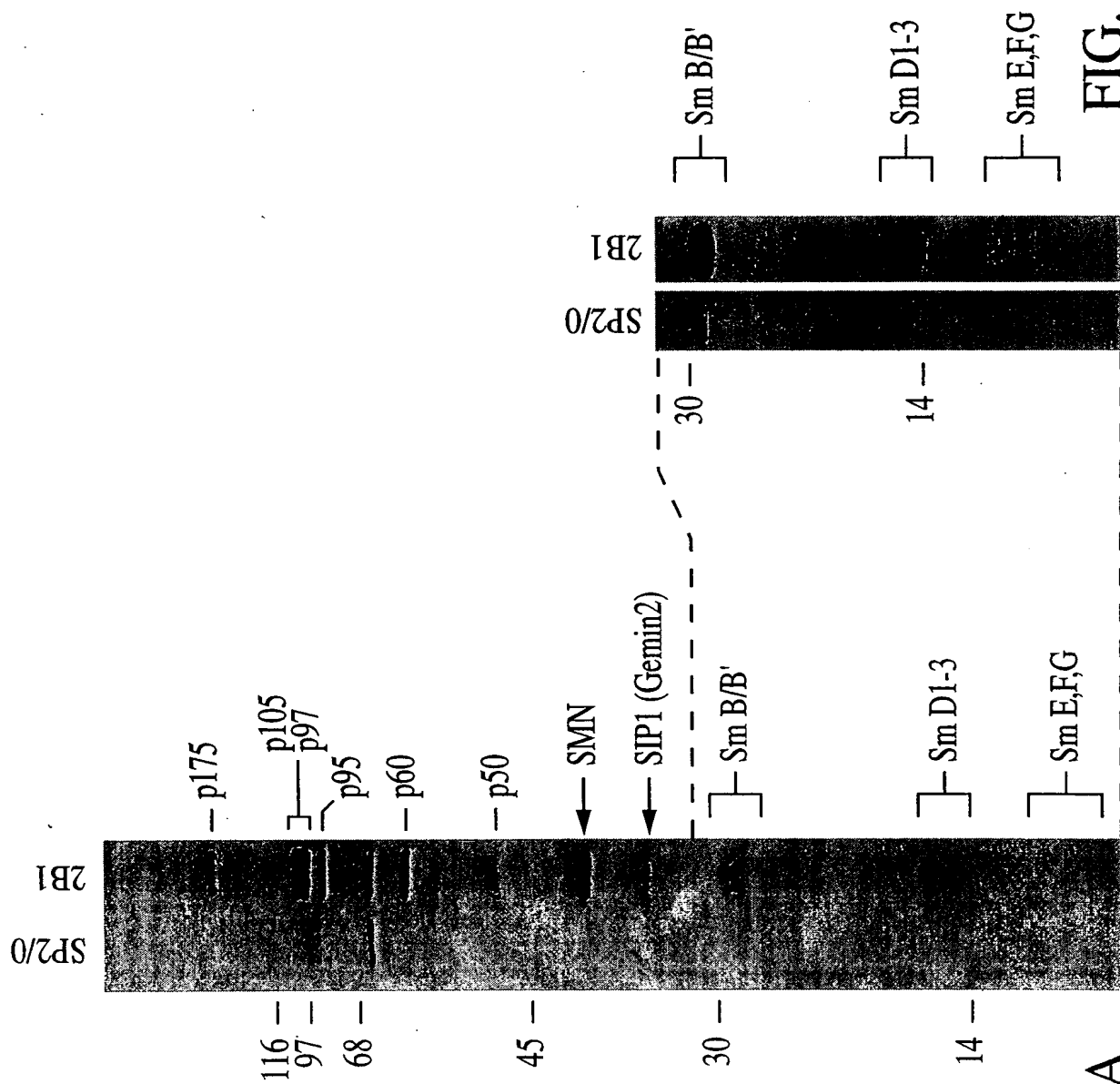
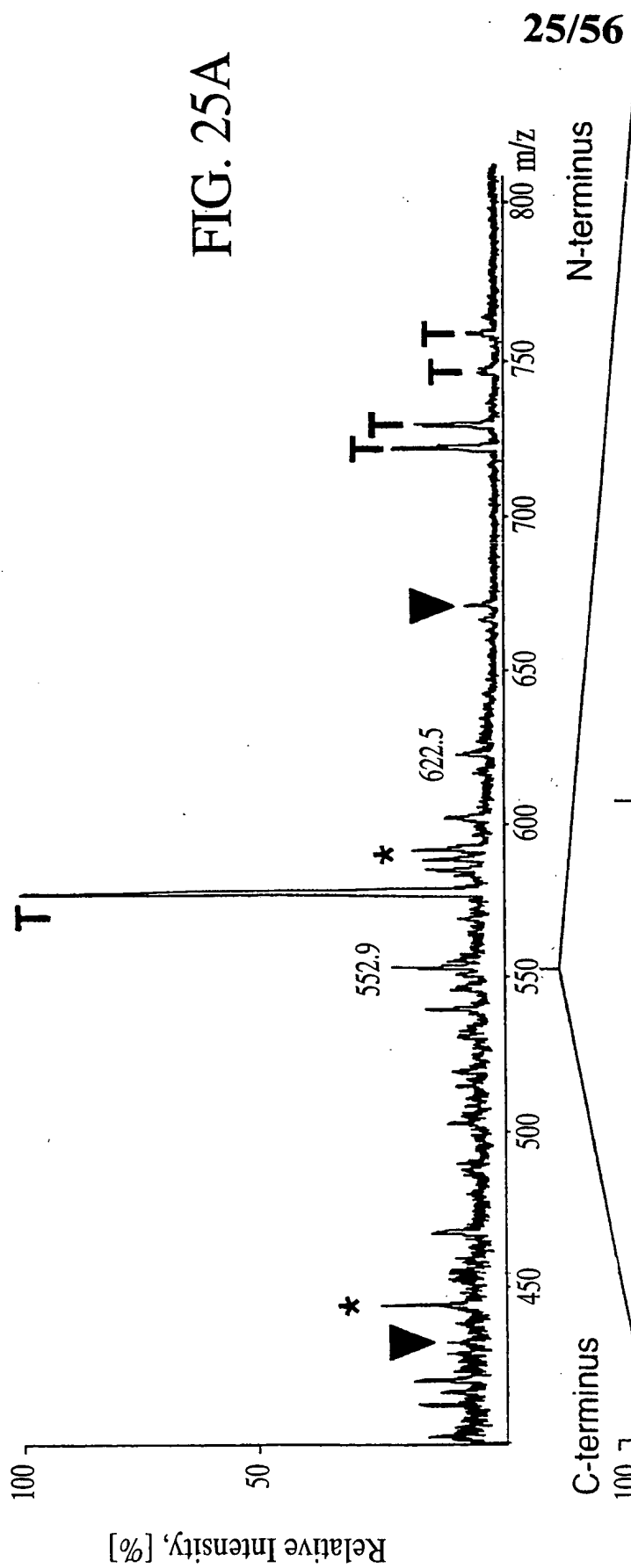


FIG. 24B

FIG. 24A



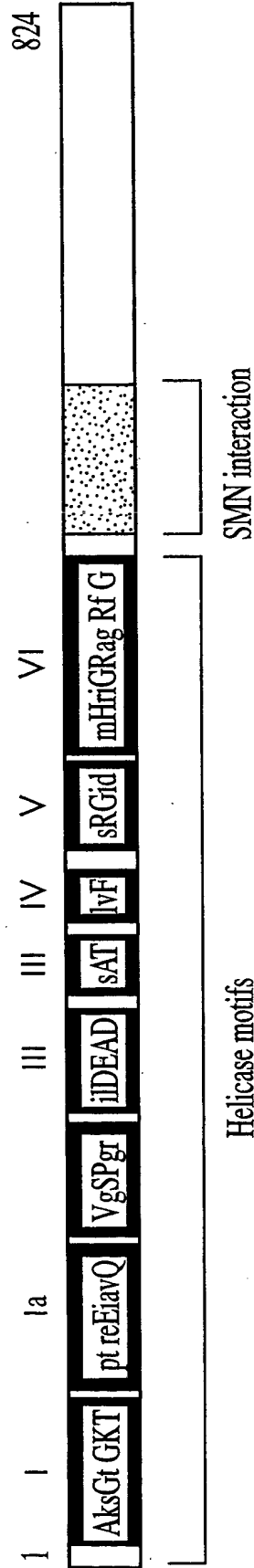


FIG. 26

Gemin3 1 MAAAFEASGALAAVATAMPATHVAVQVPAPEPTPGPVRI^{la}LR^{II}TAQDLSSPRTRTGDVLLAE 60
 eIF4A-II 1 MSGGSADYNREHG--GPEGMDPDG--VIESNNWNEIVD----- 33

 Gemin3 61 PADFEESLLLSRPPVLEGLRAAGFERPSPVOLKATPLGRCLDLIVQAKSGTGKTCVFSTIA 120
 eIF4A-II 34 --NEDDMNLKESLLRGIYAYGFEKPSAIOQRAIPCIKGYDVIAQAOAGTGKTAIFAISI 91

 Gemin3 121 IDSILVLENLS^{II}TOILLIAPTREIAVQTHSVLTATGICKMEGLECHVF^{II}IGGTPLSQD--KTRL 178
 eIF4A-II 92 LQQLLEIEFKETQALVLA^{II}PTRELAQOQLOKVALLALG-DYMGATCHACTLGGTNVRNEMQKLOA 150

 Gemin3 179 KKCHIAVGS^{II}PGRIKQOLIIELDVILNPGSITRFLFLDEADKLLLEE^{II}GSEQI^{II}NWLYSSLPASKQ 238
 eIF4A-II 151 EAPHIVVGT^{II}PCRVFDMNRRRLSPKWLKMFVLDEADEMLSRG-EKDOIVYELFOKLNTSIO 209

 Gemin3 239 MIAVSATYR^{II}EFFLANALT^{II}KYMRDPTFVRLNSSDPSLI^{II}GLKQYKVVNSYPLAHKVFE^{II}EKTQ 298
 eIF4A-II 210 VVFA^{II}SATMPETDVL^{II}EVTKK^{II}FMRDPIRILLVKKFEELTLEGIKQFYINVERE-----E^{II}WKLD 262

 Gemin3 299 H^{II}QELFSRTTPFNQALVFSNLSRAQH^{II}LADILSSKGFPAECISGNMNONORLDA^{II}MAKLKHF 358
 eIF4A-II 263 T^{II}CDLYETLTIT^{II}QAVIFLNTRRKVDWLTEKMHARDET^{II}VSALHCDMDQKERDVI^{II}MREFRSG 322

 Gemin3 359 HCRVLIS^{II}TDLT^{II}SRGLDAEKVNLV^{II}VNLDVPLD^{II}WET^{II}YMHRI^{II}GRAG^{II}FGT^{II}LG^{II}LT^{II}VTY^{II}CC^{II}RGEE 418
 eIF4A-II 323 SSRVLIT^{II}TDLL^{II}ARGIDVQOVS^{II}LVIN^{II}YDLPTNREN^{II}YIHRIGR^{II}GGRFG^{II}RKGVAINFVTE-ED 381

 Gemin3 419 ENMMMR^{II}IAQKCNINLLPLPDPTIPSGLMEEECVDWDVEVKA^{II}AVHTYGIASVPNQLKKQIQK 478
 eIF4A-II 382 KRIL^{II}RD^{II}LETFYN^{II}TTVEEMPMNVADLI 538

 Gemin3 479 IERTLQIQKAHGDHMASSRNSVSGLSVKSKNNTKQKLPV^{II}SKSHSECGII^{II}EKATSPKELGC 538

 Gemin3 539 DRQSEEQMKNSVQTPVENSTNSQH^{II}QVKEALPVSLPQIPCLSSFKIHQPYTLTFAELVEDY 598

 Gemin3 599 EHYIKEGLEKPV^{II}EII^{II}RHYTGPGDQTVNPQNGFVRNKVIEQKVPVLASSSQSGDSESDSDS 658

 Gemin3 659 YSSRTSSQSKGNKSYLES^{II}SSDNQLK^{II}DSESTPVDDRISLEQPPNGTDTPNPEKYQESPGIQ 718

 Gemin3 719 MKTRLKEGASQRAKQSRRLPRRSSFRLQTEAQEDDWDYDCHREIRLSFS^{II}SDTYQDYEEYWR 778

 Gemin3 779 AYWAWQEYYAAASHSYWNAQRHPSWMAAYHMNTIYLQEMMHSNQ 824

FIG. 27

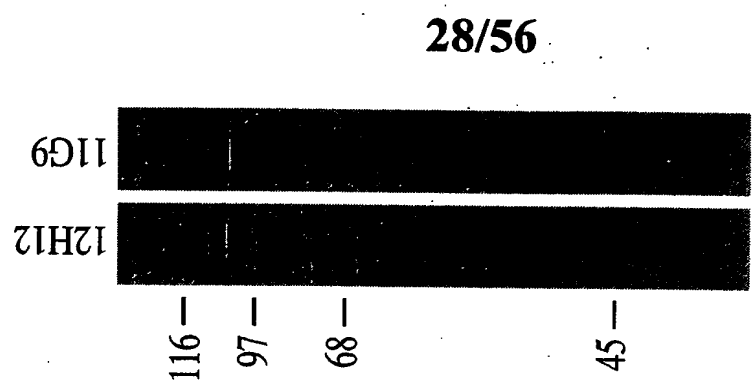


FIG. 28C

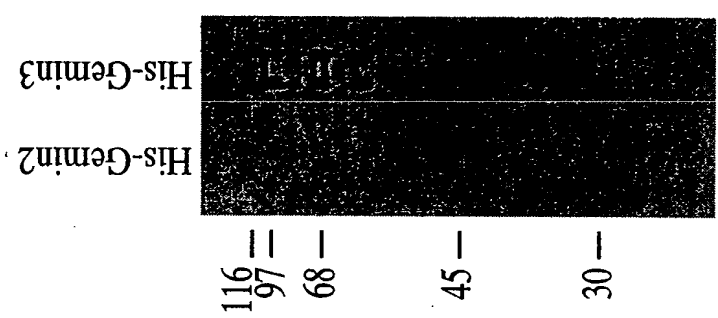


FIG. 28B

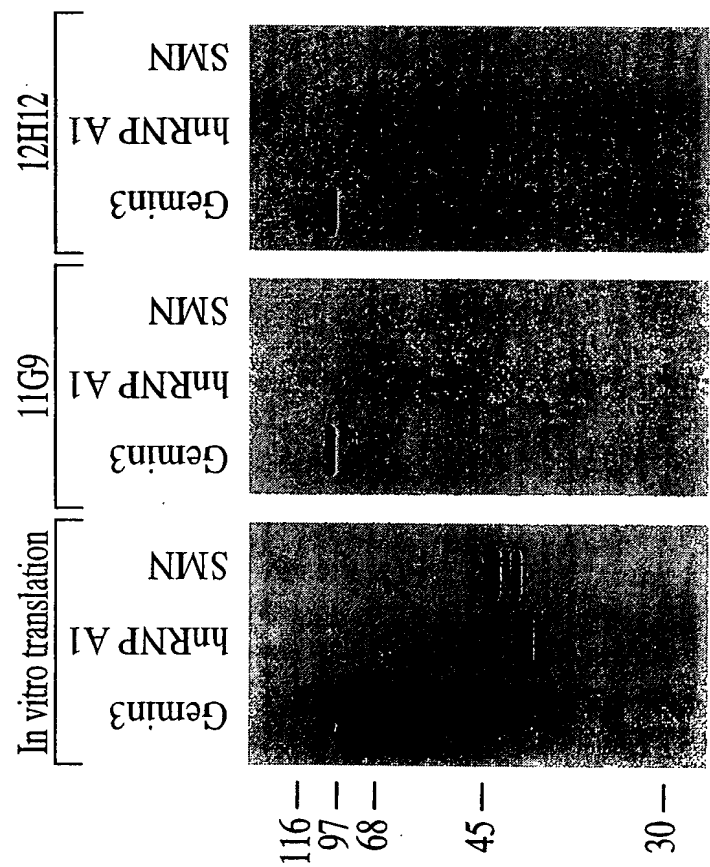


FIG. 28A

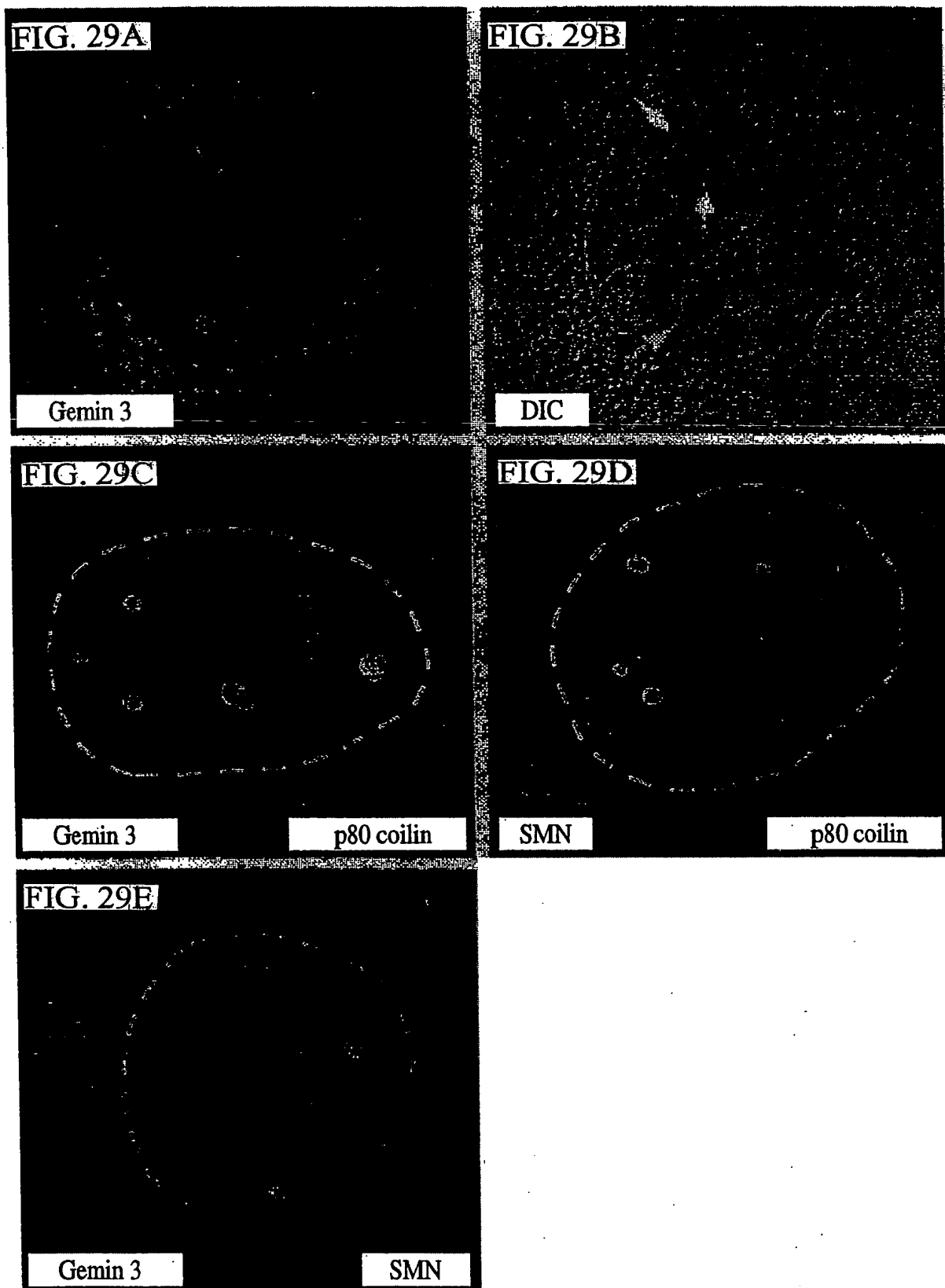
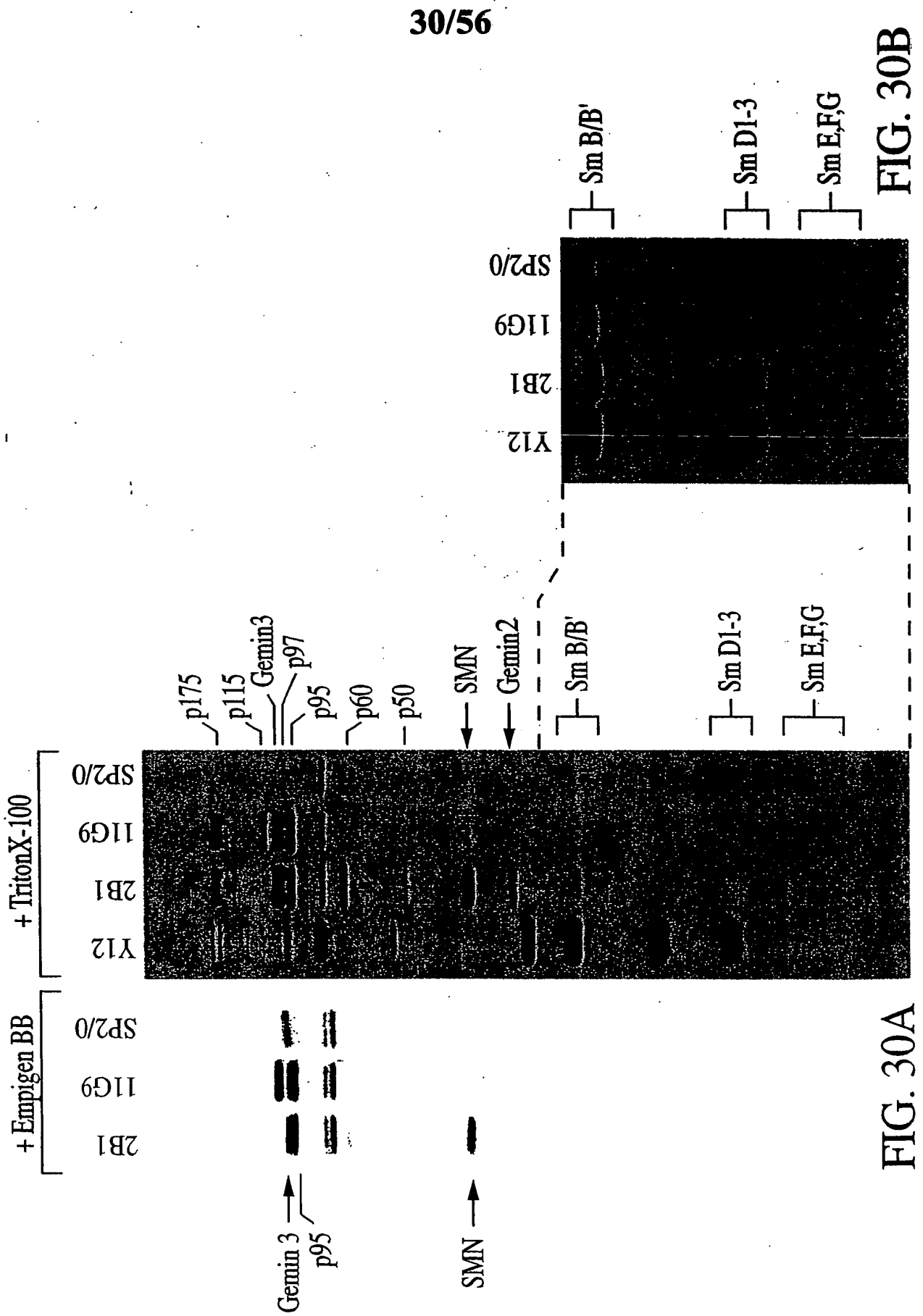


FIG. 29



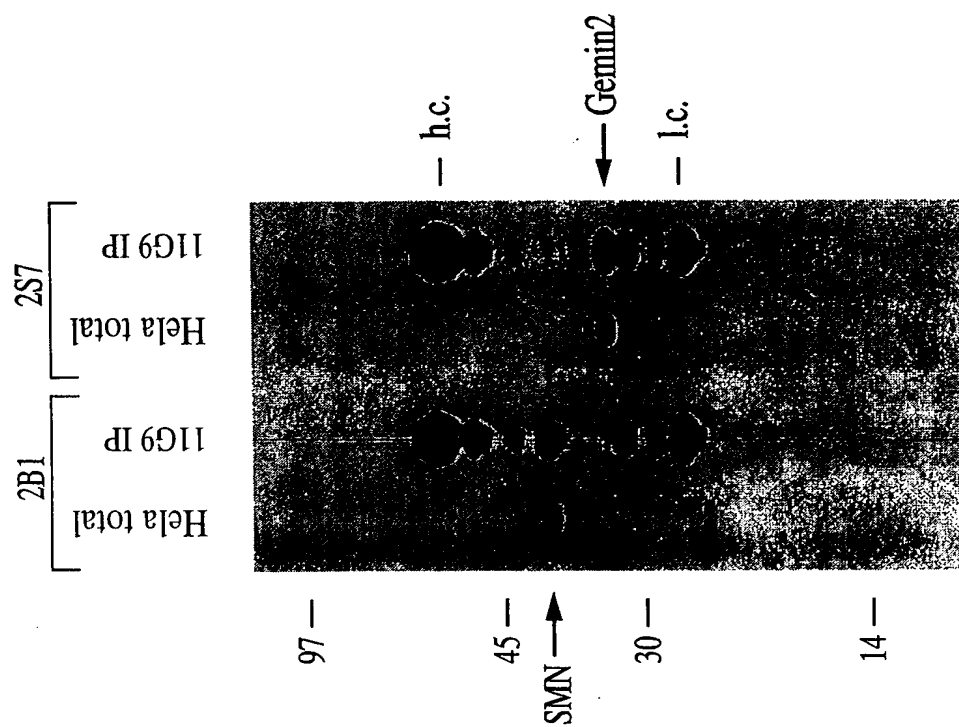


FIG. 30C

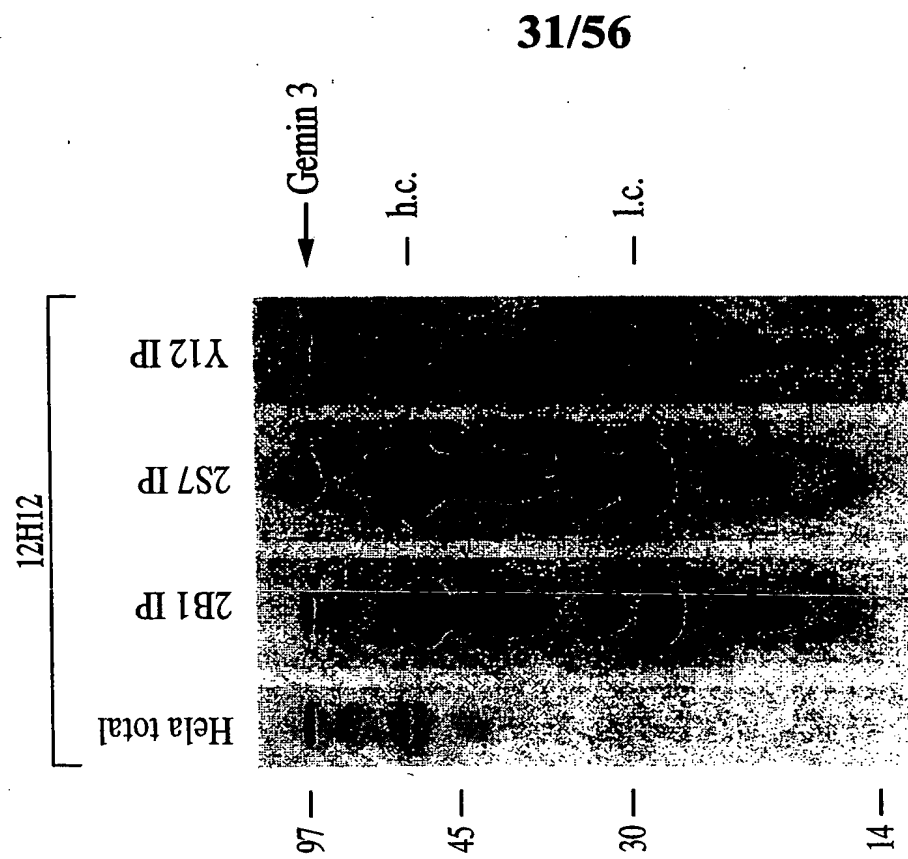


FIG. 30D

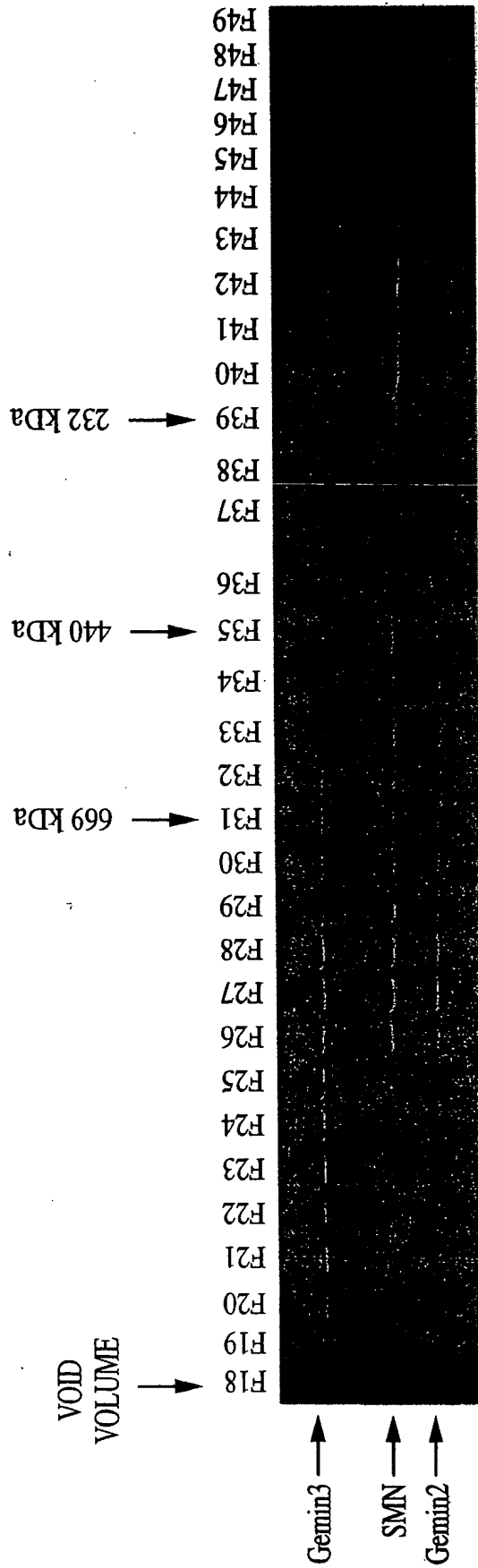


FIG. 30E

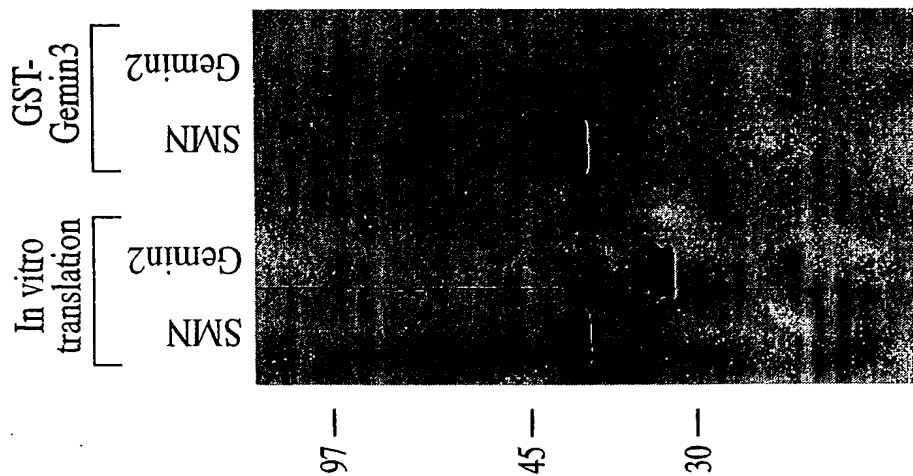


FIG. 31A

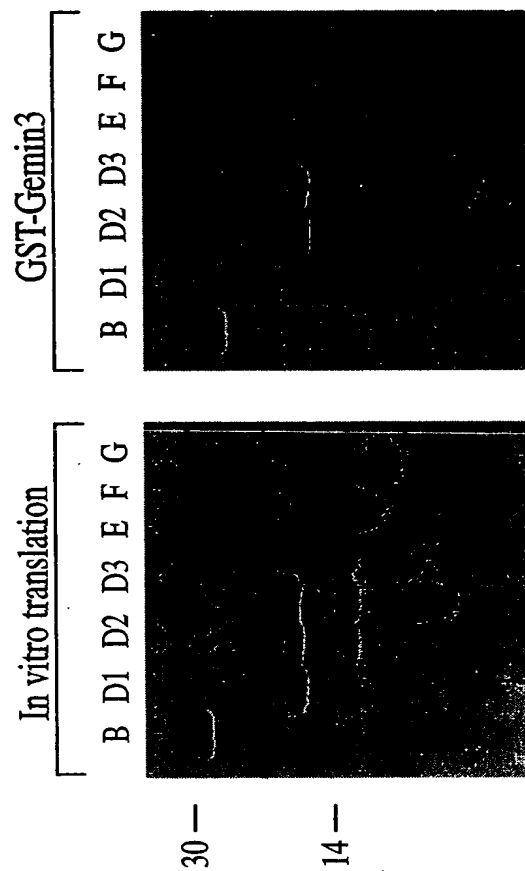


FIG. 31B

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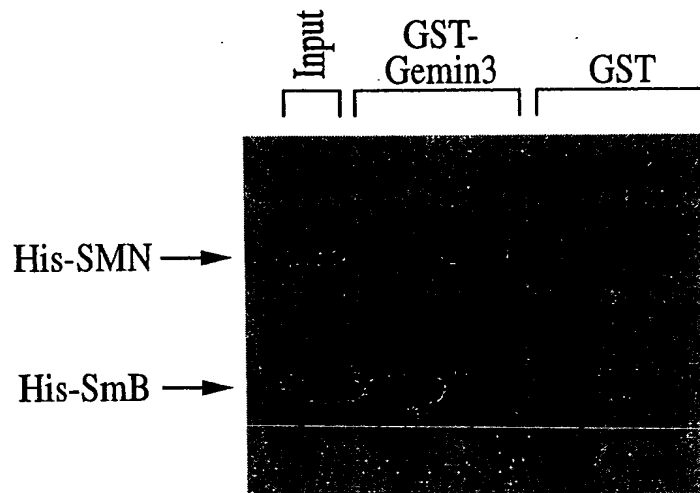


FIG. 31C

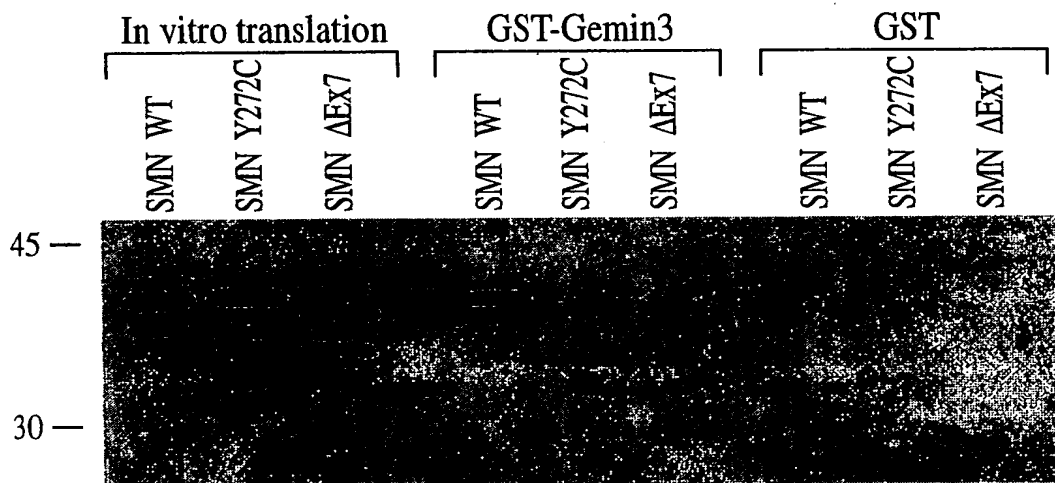


FIG. 31D

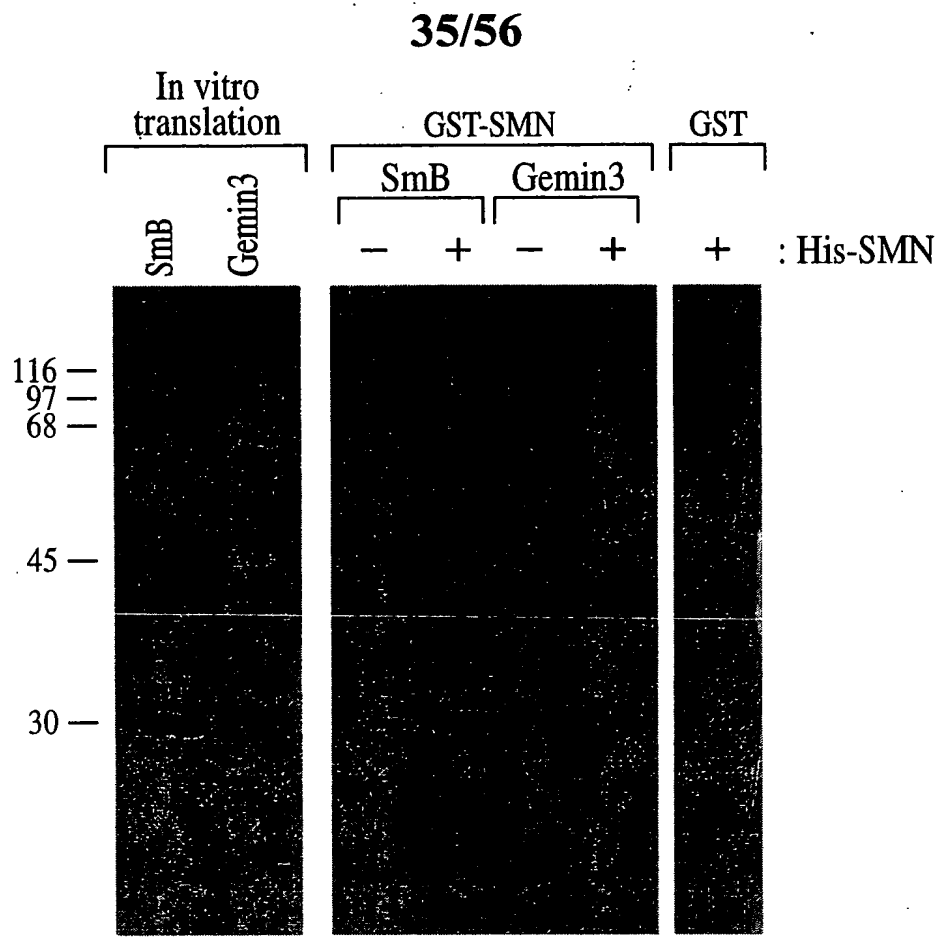


FIG. 31E

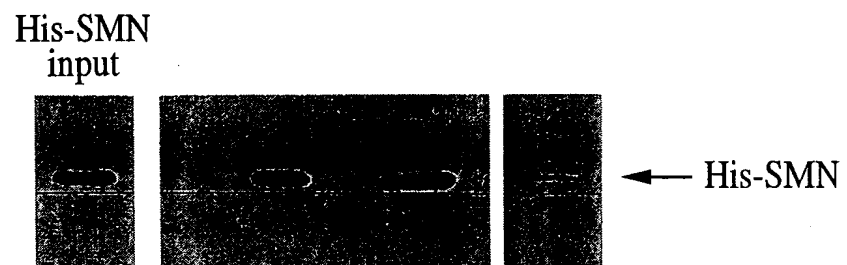


FIG. 31F

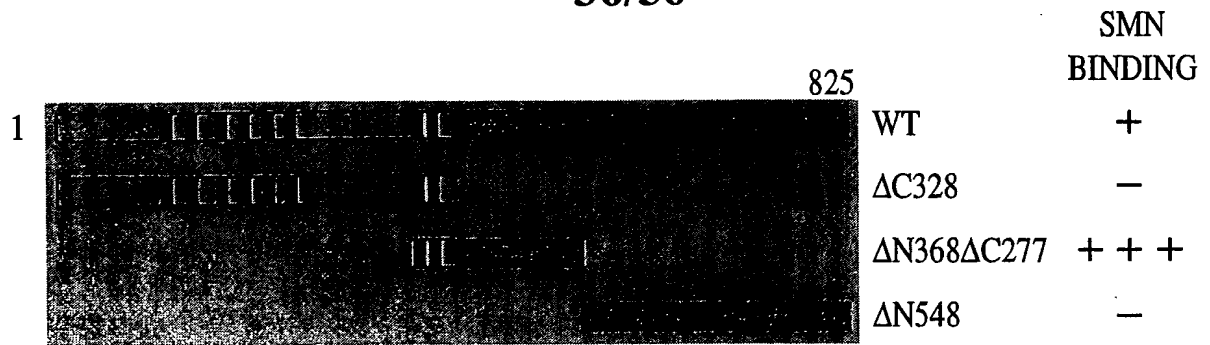


FIG. 32A

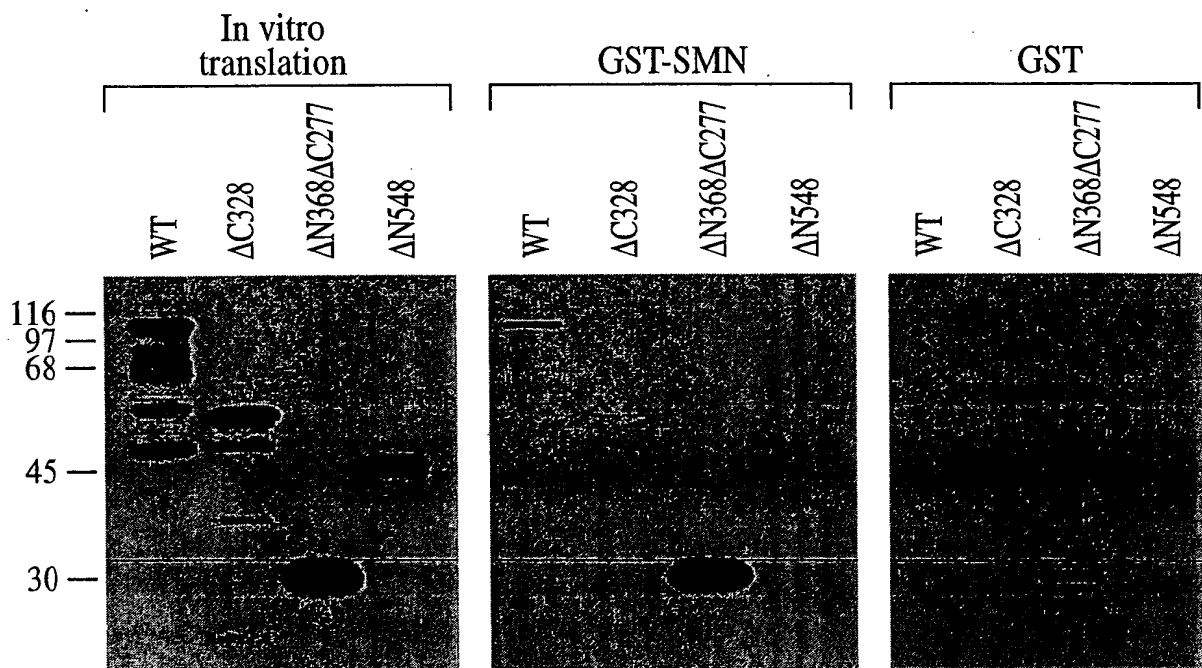


FIG. 32B

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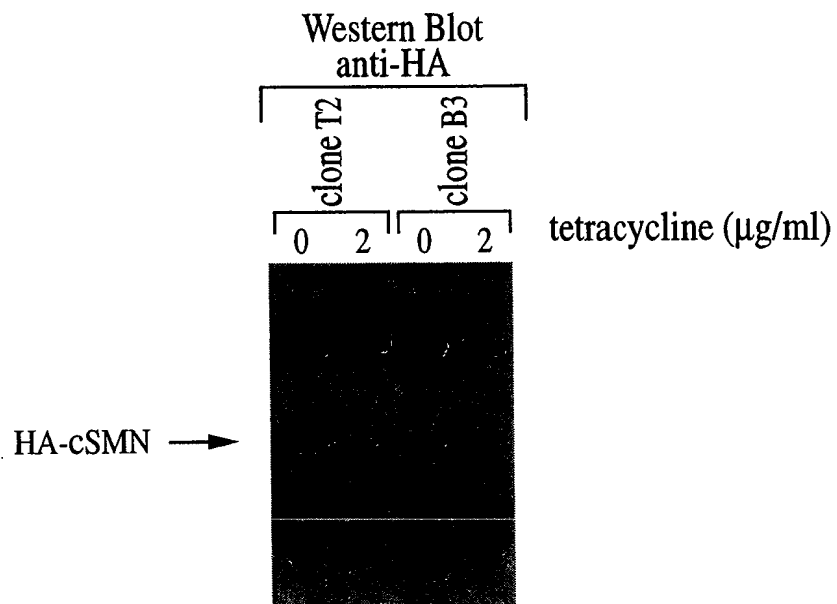


FIG. 33A

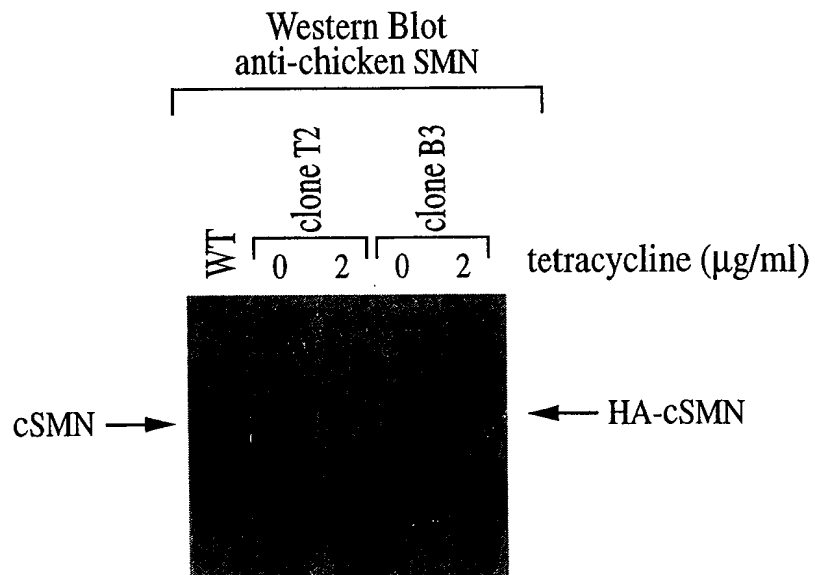


FIG. 33B

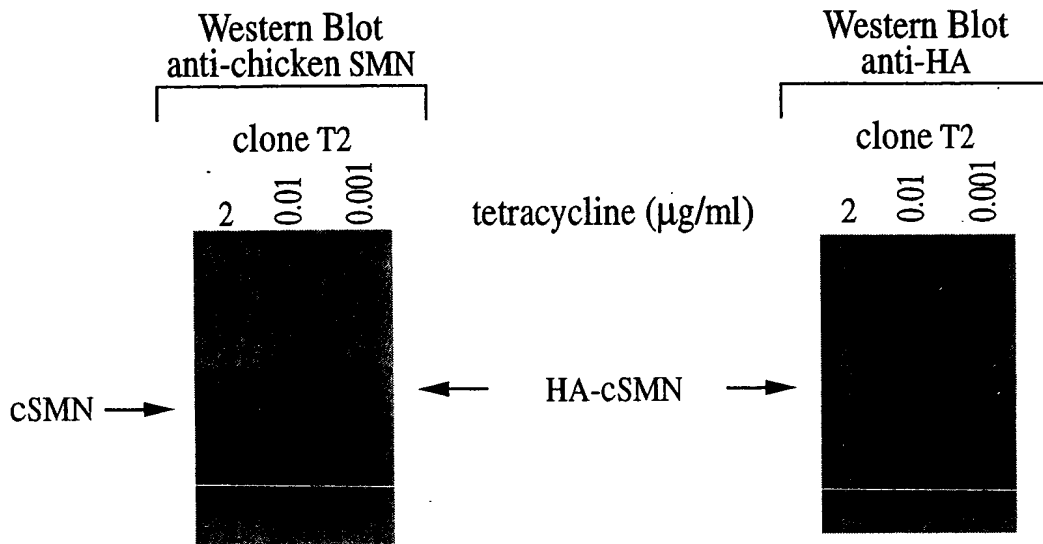


FIG. 34A

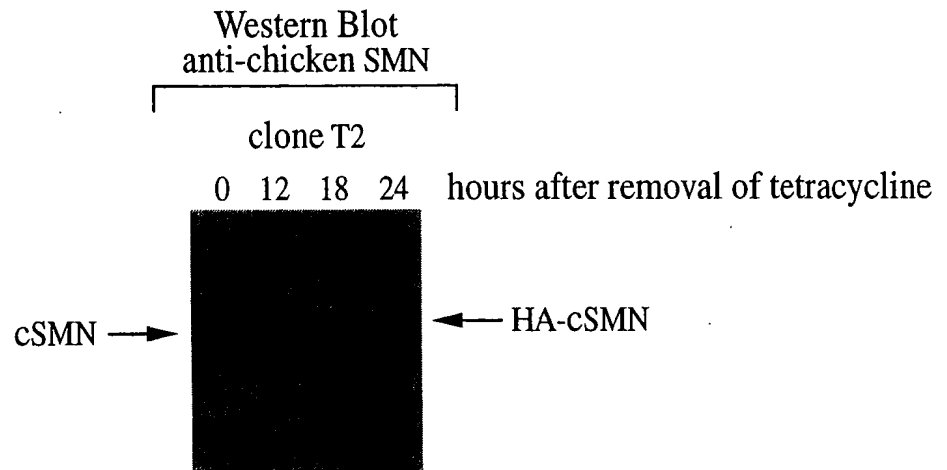


FIG. 34B

Chicken SMN Protein Sequence

MAGRVLFRRGAGQSDDSDMWDDTALIKAYDKAVASFKNALKNCGDSEPSDKQ
EQRAGVKRKNSKKNRNRNKSNAVPLKQWKVGDSNAVWSEDGNVYPATIASI
NLKRGTCTVVTYTYGYGNKEEQNLADLLPPASDETNNETPYSTDESEKSSQSHN
ENNCTKARFSPKNLRFPIPTPPGLGRHGSKFRTLPPFLSCWPPPPFAGPPLIPPPP
MGPDSPEDDEALGSMLIAWYMSGYHTGYLGLKQSRMEAALEREAYLK

FIG. 35A

Chicken SMN DATA Sequence

ATGGCGGGCAGGGTGCTGTTCCGGCGCGGCGCCGGGCAGAGCGACGACTCG
GACATGTGGGACGACACGGCCCTCATCAAGGCGTACGACAAGGCGGTGGCCT
CCTTCAAGAATGCTTTAAAGAACGGGGACTGCTCAGAGCCTTCGGACAAACA
GGAGCAGCGGGCGGGGGTGAAAAGGAAAAACAGCAAGAAGAACAGGAACA
GAAACAAGAGCAACGCCGTGCCGTTGAAGCAGTGGAAGTTGGCGACAGCT
GTAACGCTGTTTGGTCTGAGGATGGTAATGTCTACCCTGCAACTATTGCCTCC
ATAAATCTGAAGAGGGGTACATGCGTTGTTACTTACACCGGATATGGAAACA
AGGAGGAACAGAACCTGGCTGATCTACTTCCTCCAGCTAGCGATGAAACAAA
TGAAAATGAGACTCCGTATTCAACAGATGAAAGTGAAAAATCTTCCAGTCA
CATCACAATGAAAACAACTGCACAAAAGCAAGATTCTCTCCTAAAACTTAC
GGTTTCCCATCCCACCAACACCTCCAGGATTGGGAAGGCATGGTTCAAATT
CAGAACTTCCACCATTTCTTGCTTGCTGGCCCCCACCCTTCCAGCAGGAC
CACCGTTGATTCTCCTCCACCACCTATGGGGCCAGATTCTCCTGAGGATGAT
GAAGCGTTGGGGAGCATGTTGATAGCTTGGTATATGAGTGGTTATCACTCG
GATATTACCTGGGGTTAAAACAAAGTCGAATGGAAGCAGCCCTAGAGAGAG
AAGCCTATCTAAAATAG

FIG. 35B

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MAA AFE ASG ALA AVA TAM PAE HVA VQV PAP EPT PGP VIR LRT AOD LSS PRT	50 *
RTG DVL LAE PAD FES LLL SRP VLE GLR AAG FER PSP VQL KAI PLG RCG LDL	100 *
IVQ AKS GTG KTC VFS TIA LDS LVL ENL STQ ILI LAP TRE IAV QIH SVI TAI	150 *
GIK MEG LEC HVF IGG TPL SQD KTR LKK CHI AVG SPG RIK QLI ELD YLN PGS	200 *
IRL FIL DEA DKL LEE GSF QEQ INW IYS SLP ASK QML AVS ATY PEF LAN ALT	250 *
KYM RDP TFV RLN SSD PSL IGL KQY YKV VNS YPL AHK VFE EKT QHL QEL FSR	300 *
IPF NQA LVF SNL HSR AQH LAD ILS SKG FPA ECI SGN MNQ NQR LDA MAK LKH	350 *
FHC RVL IST DLT SRG IDA EKV NLV VNL DVP LDW ETY MHR IGR AGR FGT LGL	400 *
TVT YCC RGE EEN MMM RIA QKC NIN LLP LPD PIP SGL MEE CVD WDV EVK AAV	450 *
HTY GIA SVP NQP LKK QIQ KIE RTL QIQ KAH GDH MAS SRN NSV SGL SVK SKN	500 *
NTK QKL PVK SHS ECG IIE KAT SPK ELG CDR QSE EQM KNS VQT PVE NST NSQ	550 *
HQV KEA LPV SLP QIP CLS SFK IHQ PYT LTF AEL VED YEH YIK EGL EKP VEI	600 *
IRH YTG PGD QTV NPQ NGF VRN KVI EQK VPV LAS SSQ SGD SES DSD SYS SRT	650 *
SSQ SKG NKS YLE SSS DNQ LKD SES TPV DDR ISL EQP PNG TDT PNT EKY QES	700 *
	750

FIG. 36A

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*

PGI QMK TRL KEG ASQ RAK QSR RNL PRR SSF RLQ TEA QED DWY DCH REI RLS

800

*

FSD TYQ DYE EYW RAT YRA WQE YYA AAS HSY YWN AQR HPS WMA AYH MNT IYL

QEM MHS NQ

FIG. 36B

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50
*
ATG GCG GCG GCA TTT GAA GCC TCG GGA GCC TTA GCA GCA GTG GCG ACT GCT

100
*
ATG CCG GCT GAG CAT GTG GCC GTG CAG GTC CCG GCC CCA GAG CCA ACA CCC

150
*
GGG CCT GTG AGG ATC CTG CGG ACC GCT CAG GAT CTC AGC AGC CCG CGG ACC

200
*
CGC ACG GGG GAT GTG CTG TTG GCG GAG CCG GCC GAC TTC GAG TCA CTG CTG

250
*
CTT TCG CGG CCG GTG CTG GAG GGG CTG CGG GCG GCC GGC TTC GAG AGG CCC

300
*
TCG CCG GTG CAG CTC AAG GCC ATC CCG TTG GGG CGC TGC GGG CTC GAT TTA

350
*
ATT GTT CAA GCT AAA TCT GGC ACC GGG AAA ACC TGT GTG TTC TCC ACC ATA

400
*
GCT TTG GAC TCT CTT GTT CTT GAA AAC TTA AGT ACC CAG ATT TTG ATC TTG

450
*
GCT CCT ACA AGA GAA ATT GCT ATA CAG ATA CAT TCT GTT ATT ACA GCC ATT

500
*
GGA ATA AAA ATG GAA GGC TTA GAG TGT CAT GTC TTT ATT GGA GGG ACC CCA

550
*
TTA TCA CAA GAC AAA ACC AGA CTT AAA AAG TGT CAT ATT GCT GTT GGA TCT

600
*
CCT GGC AGA ATT AAG CAA CTC ATA GAA CTT GAC TAC TTG AAC CCA GGC AGT

650
*
ATA CGC CTC TTT ATT CTT GAT GAA GCA GAT AAG CTT TTA GAA GAA GGC AGC

700
*
TTC CAG GAG CAA ATA AAT TGG ATT TAT TCT TCC TTG CCT GCC AGT AAA CAG

750

FIG. 36C

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ATG CTG GCA GTA TCA GCT ACT TAT CCC GAA TTT TTG^{*} GCT AAT GCT TTG ACA
800^{*}
AAG TAC ATG AGA GAT CCC ACT TTT GTA AGA CTG AAT TCC AGT GAT CCA AGT
850^{*}
CTC ATA GGT TTG AAG CAG TAT TAC AAA GTT GTC AAT TCA TAC CCT TTG GCA
900^{*}
CAT AAG GTT TTT GAG GAA AAG ACT CAG CAT TTA CAG GAA CTG TTC AGC AGA
950^{*}
ATT CCA TTT AAT CAA GCT TTA GTC TTT TCT AAT TTG CAC AGC AGA GCA CAA
1000^{*}
CAT TTG GCT GAT ATC CTT TCT TCT AAA GGC TTT CCT GCT GAG TGC ATT TCA
1050^{*}
GGC AAT ATG AAT CAG AAT CAG CGT CTT GAT GCT ATG GCT AAA CTG AAG CAC
1100^{*}
TTT CAT TGC AGA GTC CTC ATT TCC ACA GAT TTG ACT TCT CGT GGG ATT GAT
1150^{*}
GCT GAG AAG GTG AAT CTG GTT GTA AAT CTG GAT GTA CCA TTG GAT TGG GAG
1200^{*}
ACA TAC ATG CAT CGC ATT GGG AGA GCT GGC CGT TTT GGT ACA TTG GGG CTG
1250^{*}
ACA GTG ACC TAC TGT TGC CGG GGA GAG GAA GAA AAT ATG ATG ATG AGA ATT
1300^{*}
GCC CAG AAA TGT AAT ATC AAC CTT CTC CCT TTA CCA GAT CCC ATT CCT TCT
1350^{*}
GGT CTG ATG GAA GAA TGT GTG GAT TGG GAT GTG GAA GTT AAA GCT GCT GTG
1400^{*}
CAT ACA TAT GGT ATA GCA AGT GTA CCT AAC CAA CCC TTA AAA AAG CAA ATT
1450^{*}

FIG. 36D

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CAG AAA ATA GAG AGA ACC CTT CAA ATT CAG AAA GCT CAT GGT GAC CAC ATG
 1500
 GCT TCC TCT AGA AAT AAT TCT GTA TCT GGA CTA TCA GTC AAA TCA AAA AAT
 1550
 AAT ACC AAA CAA AAG CTT CCT GTG AAA AGC CAC TCA GAA TGT GGA ATC ATA
 1600
 GAA AAA GCA ACG TCA CCA AAA GAA CTG GGC TGT GAC AGG CAA TCC GAA GAG
 1650
 CAA ATG AAG AAT TCT GTT CAG ACT CCC GTT GAA AAC TCC ACC AAC AGT CAG
 1700
 CAC CAG GTC AAA GAA GCT TTA CCT GTG TCA CTC CCC CAG ATT CCT TGT CTG
 1750
 TCT TCC TTT AAA ATC CAT CAG CCA TAC ACG TTG ACT TTT GCT GAA TTG GTA
 1800
 GAG GAT TAT GAA CAT TAT ATTT AAA GAG GGG TTA GAG AAA CCT TG GAA ATC
 1850
 ATC AGG CAC TAC ACA GGC CCT GGG GAT CAG ACT GTG AAT CCT CAA AAT GGT
 1900
 TTT GTG AGA AAT AAA GTT ATT GAA CAG AAA GTC CCT GTG TTG GCA AGT AGT
 1950
 AGC CAA TCT GGA GAC TCT GAG AGT GAC AGT GAT TCT TAC AGC TCA AGA ACC
 2000
 TCT TCC CAG AGC AAA GGA AAT AAG TCA TAC TTG GAA AGC TCT TCT GAT AAT
 2050
 CAG CTG AAA GAC TCT GAA TCT ACG CCT GTG GAT GAT CGT ATT TCT TTG GAA
 2100
 CAA CCA CCA AAT GGA ACT GAC ACC CCC AAT CCA GAG AAA TAT CAA GAA TCA
 2150
 CCT GGA ATC CAG ATG AAG ACA AGA CTT AAA GAG GGG GCT AGC CAG AGA GCT

FIG. 36E

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2200
 *
 AAG CAG AGC CGG AGA AAC CTA CCC AGG CGG TCT TCC TTC AGA TTG CAG ACT
 2250
 *
 GAA GCC CAG GAA GAT GAT TGG TAT GAC TGT CAT AGG GAA ATA CGT CTG AGT
 2300
 *
 TTT TCT GAT ACC TAT CAG GAT TAT GAG GAG TAC TGG AGA GCT TAC TAC AGG
 2350
 *
 GCA TGG CAA GAA TAT TAT GCT GCC GCT TCT CAT TCA TAT TAT TGG AAT GCT
 2400
 *
 CAG AGA CAT CCA AGT TGG ATG GCA GCT TAT CAC ATG AAT ACC ATT TAT CTA
 2450
 *
 CAA GAA ATG ATG CAT AGT AAC CAG TGA TTA TAG GAT ATA CCT GAG ACC ATC
 2500
 *
 AGG AAC TGT CAA CAA ATG ATA CCT TTG GAT ATC CAT CCT CCT CGA CTT ATA
 2550
 *
 2600
 *
 GTA CAG TGG TGT ATA GTG GCA TTT CTG ATA AAC TTG AAA AGA CTT GGA TCT
 2650
 *
 TTC CAC TGG GAC ACA TCC ATT TTT CAG ATT GTT TTG ATT TAG GCC AGG TAT
 2700
 *
 ATT ATC TTC ATT TTT AAG AGT TTC TTT AAG AAA CCT CAT CAG AGT GTT GAA
 2750
 *
 AGC ATC AGT TTC TGG GAC CAT AGA TGC TGA CAG TTT CAG GGT GCC ATT GTC
 2800
 *
 CAT AAG ATC TTC CCA AAC GAT ACA GTT GAA GCG AGG ACA TAT ACC TCC ACT
 2850
 *
 TAC CTA GCT ACG ATA AAA GCA GTA GAC TTG GTT AGT AAA AAA AAA AAA AAA
 AAA

FIG. 36F

```

1 taacgctccc taaactgcc cttgntcagc tccgcgccta aggtgtctat tagtgcgcct
61 gcgctgtgac ctagaatggg cgcatagcgc gagcggaaact ggctggtttg aaaccatgg
121 cgtgggtacc agcggagtcc gcagtggag agttgatgcc tcggctattg ccggtagagc

181 ctgcgactt gacggaagggt ttcgatccct cggtaacccc gaggaagcct caggaatacc
241 tgaggcgggt ccagatcgaa gcagctcaat gtccagatgt tctggttagct caaattgacc
231 caaagaagtt gaaaagggaag caaagtgtga atattctctt ttcaggatgc caaccgcgc
361 ctgaaggcta tccccaaca cttcaatggc aacagcaaca agtggcacag ttttcaactg
421 ttcgacagaa tgtgaacaaa catagaagtc actggaaatc acaacagtgt gatagtaatg
481 tgacaatgcc aaaatctgaa gatgaagaag gctggagaa atttgtctg ggtgaaaagt
541 tatgtgctga cggggctgtt ggaccagcca caaatgaaag tcctggataa gatfatgtac
601 aaattggttt tccfcccctg cttagtattg ttagcagaa gaatcaggca acagtaacta
661 gtgtctfaga atatctgagt aattggtttg gagaaagaga cttactcca gaattgggaa
721 gatggctffa tgctttattg gcttgctctg aaaagccttt gttacctgag gctcaffcac
781 tgatfcggca gcttgcaaga agtgctctg aagtgggct cttagtggat agcaaaagatg
841 atgagagggt tcctgctttg aatttattaa tctgcttgg tagcaggat tttgaccaac
901 gtgattfagc tgatgagcca tcttgatga gctgatctct cagggataga agatatctt
961 catgaaggca gcctaactct gaggaataca atgccaatc aagtaacagat ttcaacacat
1021 cttcaacact atgtgaagggt ttcacatctt aacctgtgca attcagattg atactcagaa
1081 tatgggttga tttgaataac tgaatatca atggaaaatc ccactcagtt tttgatgaac
1141 agtttgaaca gttttctgta atcaagcagc ttgcatagaa attgtatgat gaaattttac
1201 atagggttctt ggtgctgttt tgttcttttt ttgttttttg ttgtttttgt atttacttat
1261 atacatatata aattttattg aaaaat

```

FIG. 37

1 gaatttcggca cgaagcggggc ccgaagagct gatgccagg ctgtaccgg ttgaggcctg
 61 tcatctfccc gaggaactatg atccctccgt gccgcctcgg acccctcagg agtatctcgg
 121 gagagtcag attgaagcag cacgttgtcc tcatgtatgc attgcacaga ttgatcccaa
 181 aaggtgcca aagaaacaga ccgttagcat afctctgtcg ggaagccagc ctgctcctga
 241 tgggtactct ccaagcctcc gctggcagca gcaacaagta gcacagtctt ctgctgtccg
 301 ccagagtcct cacaagcaca ggggtcactg gaggtctcag cctttggaca gcaatgttac
 361 aatgccaaac acagaggatg aagagagctg gadaaagtcc tgtctggggg aacggctata
 421 ttctgacctc gcagctgccc taacacagca gagccagcat ccaggaaatg attacattaa
 481 ggttggttc ccaccgttcg tgagcaattg tagtcggatg agccaggcga cagtaacaag
 541 tgtgctagaa tacttggtga actggtttga agagaggaaac ttactccag agctgggtcg
 601 ttggctttat gctttgctgg cctggcctgga gaaaccactg ctgcctgagg ctcaactctc
 661 tatfaggcag ttggcacgaa gatgctcaca aatcagagct ggggtggaac ataaaggaaaga
 721 tgatcgggtg tctccactga acttattcat ctgtctggtt ggcaggfact ttgaacagcg
 781 agatttggtc gactgtggtg accatcttg atgatgatca ggcagcttta cccccctcc
 841 cccactctcc cagagcatct cggcaatctc catgctatcc actccccctc tcatccagtg
 901 gtgcaccaac tatactggtt ttggattcag gaaactgtgt ggtttaaccc tctcagtgcc
 961 aaaaagggcc ttgaaggagc taggacaggc atggataatc tctanccttc agatgtttaa
 1021 ctacaactac caagaagccg aanaagtgc agttgaaccg catctacagc acttcacttt
 1081 gccaatccct gaattttggc accgaccaat tgcacgtcna cctcttgccct gccattggca
 1141 ntatantata atgttttccc ttctttggga atctgaanga acaacngtct fatttaftgt
 1201 tccgttctnt nnnngtttnn ggtntnnnnn ttttctnanfc ntttttccat atattggccn
 1261 aanttgaggaa aaaatattaa nttgcctcnn tgggtttgtt ggaataaccat ttccnftcc
 1321 ttaaaacccc cccctgctgt ttaccctcc tttggccnt tttgtcnaca anctgggaaa
 1381 aaattctttt aaatccnttc tnttncctn gggaataaccn ntfaaactnt tncnftnaa
 1441 aantattttt ttgcccctt aantttgnan ttttcccccc cccccctt gcctnttttn
 1501 cncctttttt tnaaacncc cngtntntn tnggtcncc cccnnnccc nngggaancc
 1561 ncnctntttt tnaaaancc ttccccctt ccctntntn ngtcnnaat ttnnnnnnn
 1621 naaacnntt t

FIG. 38

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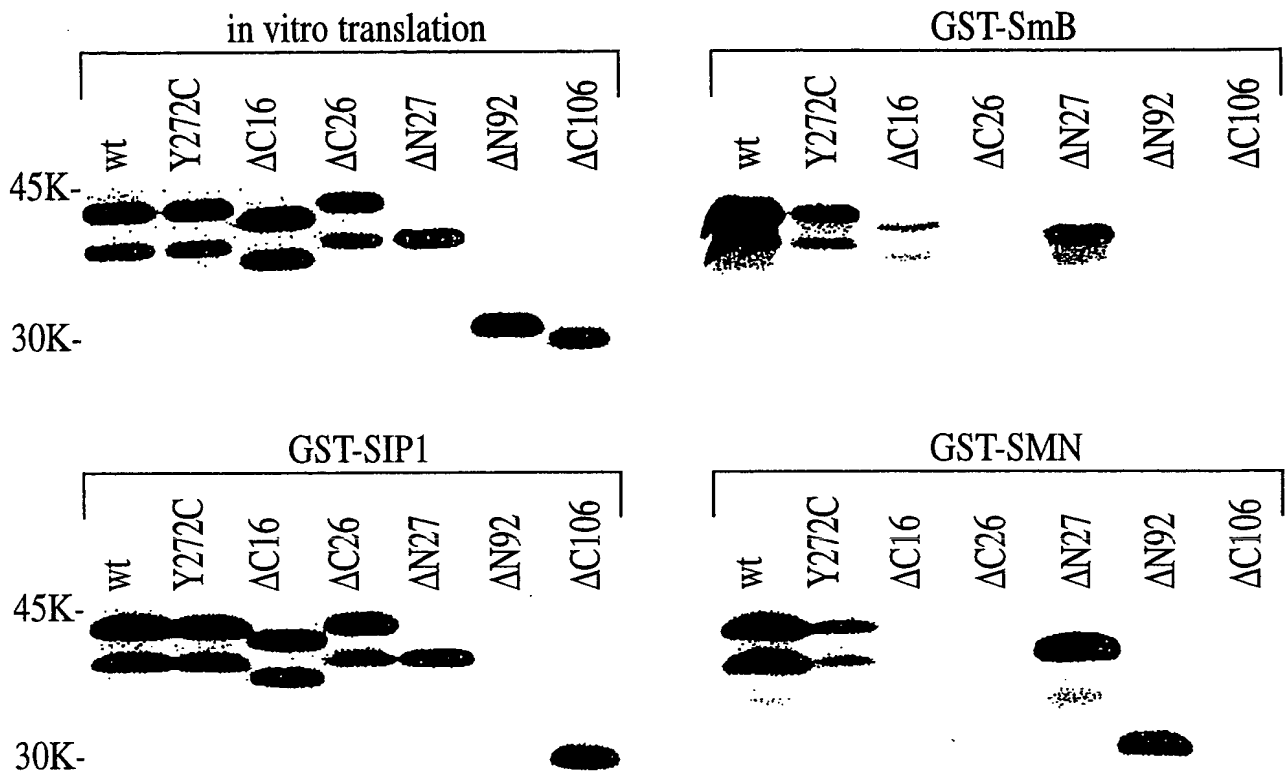


FIG. 39

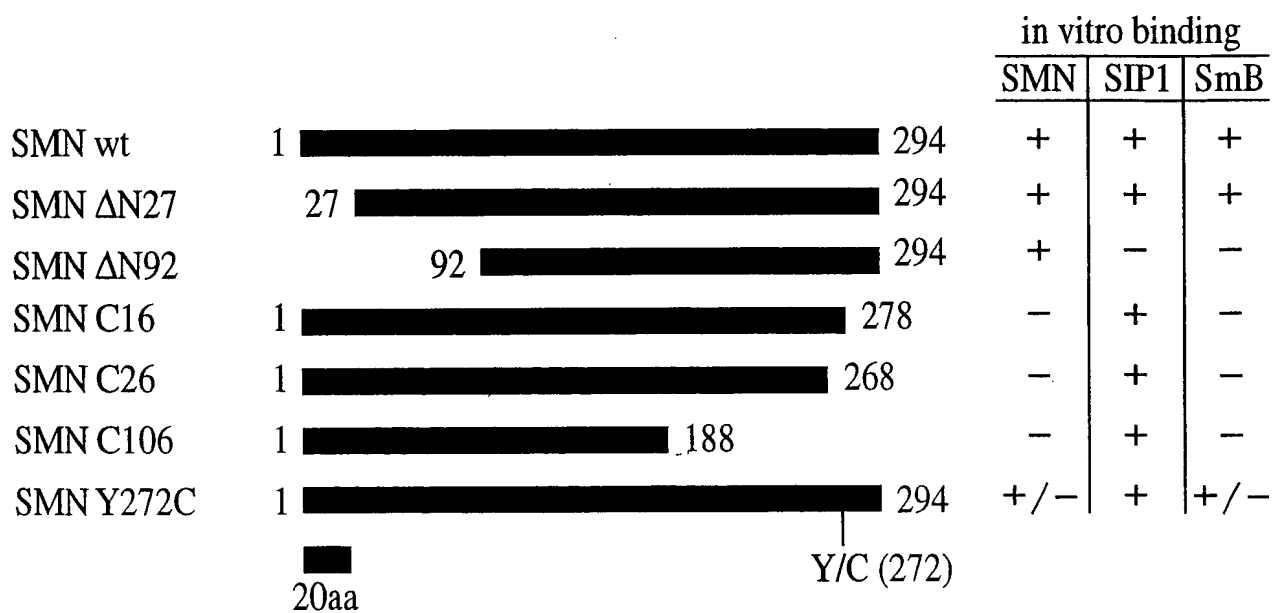
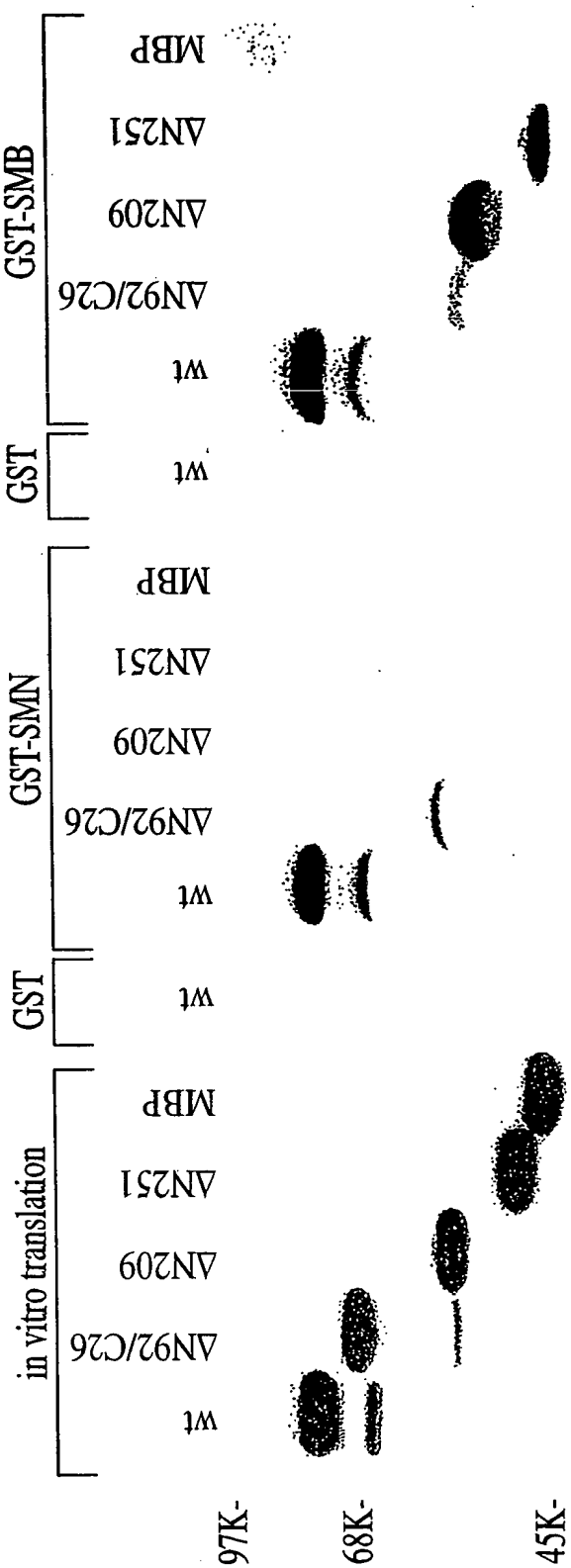
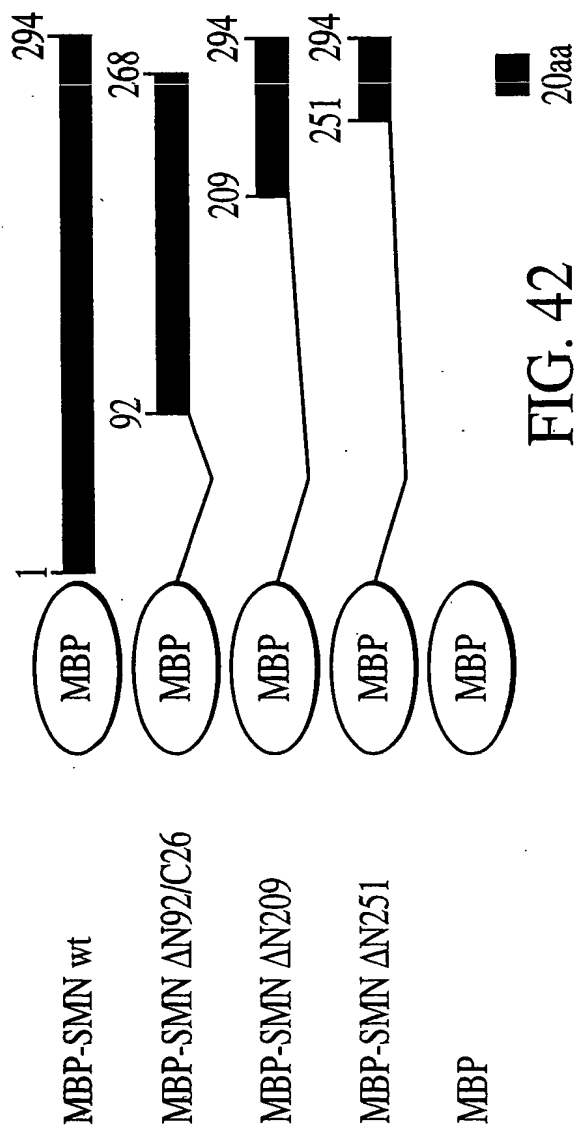


FIG. 40



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in vitro binding	
SMN	SmB
+	+
-	-
-	+
-	+
-	-



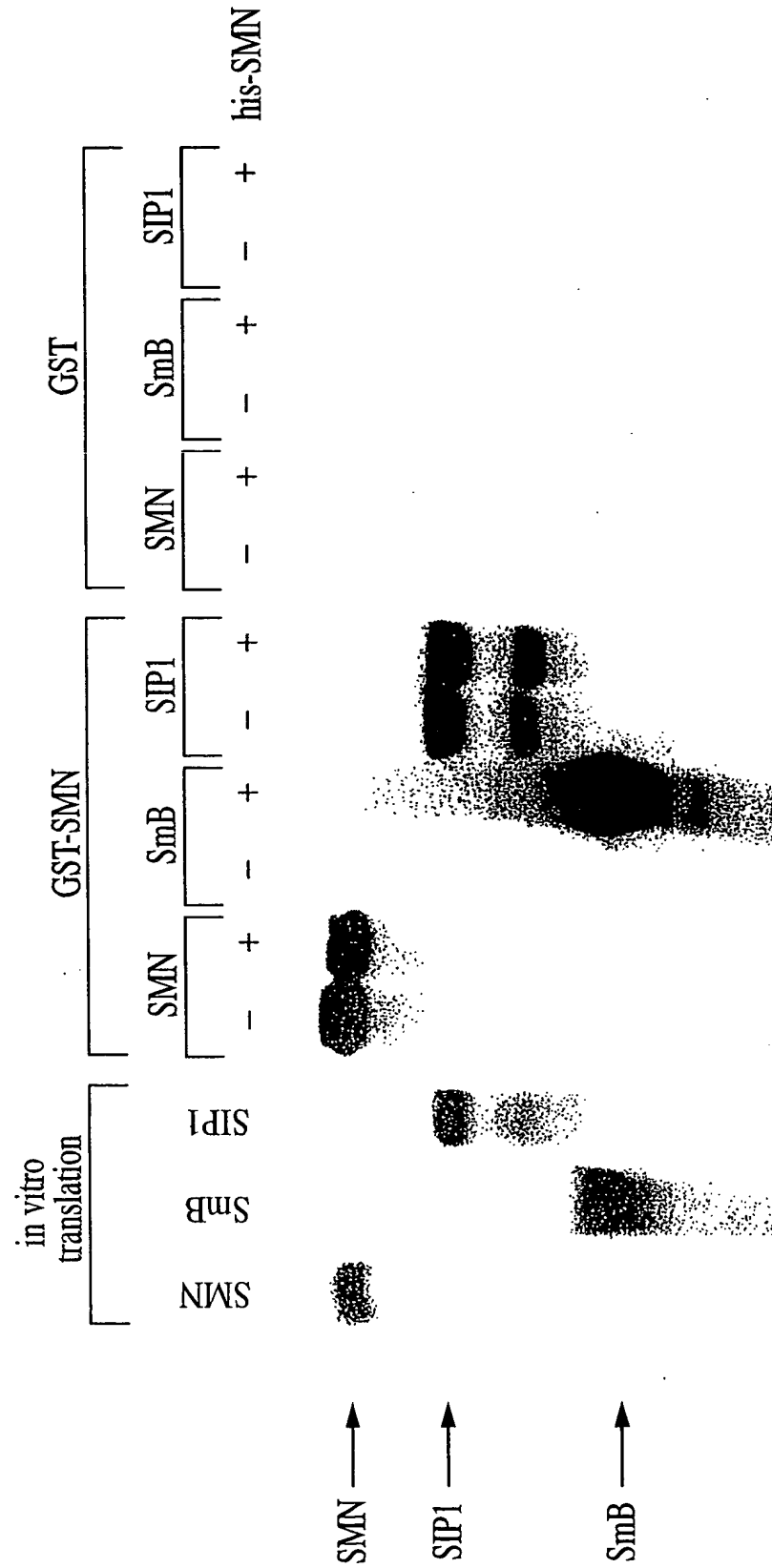


FIG. 43

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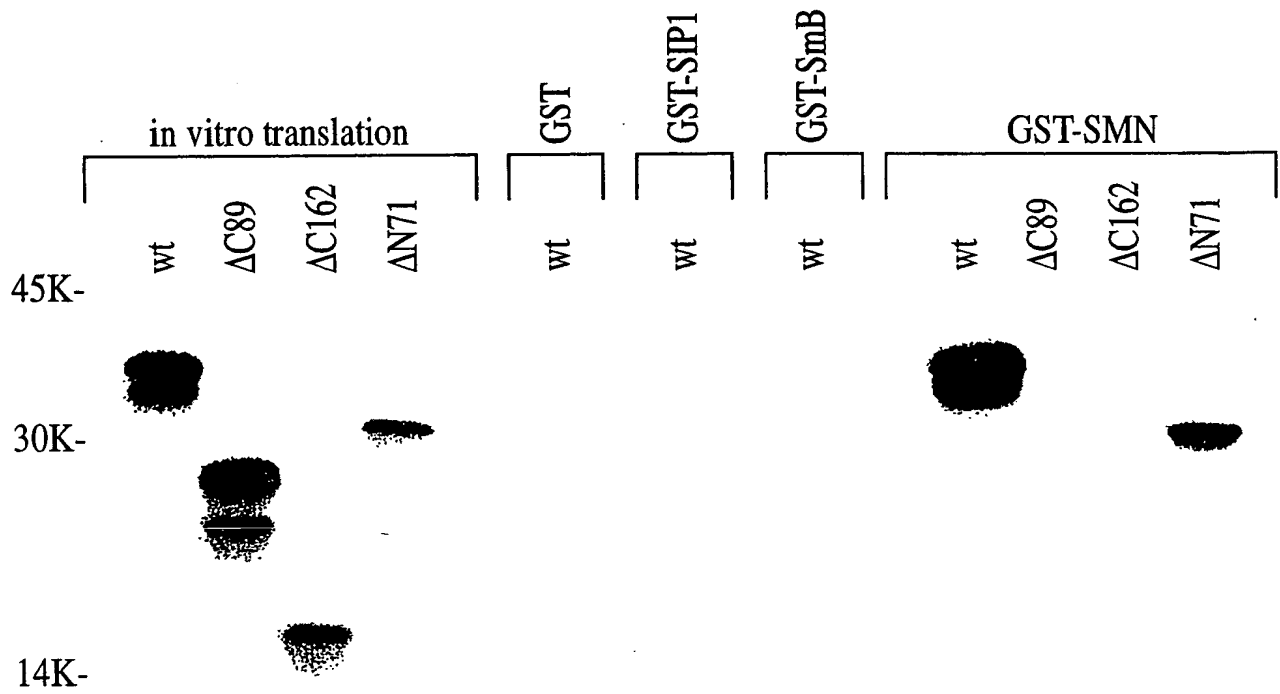


FIG. 44

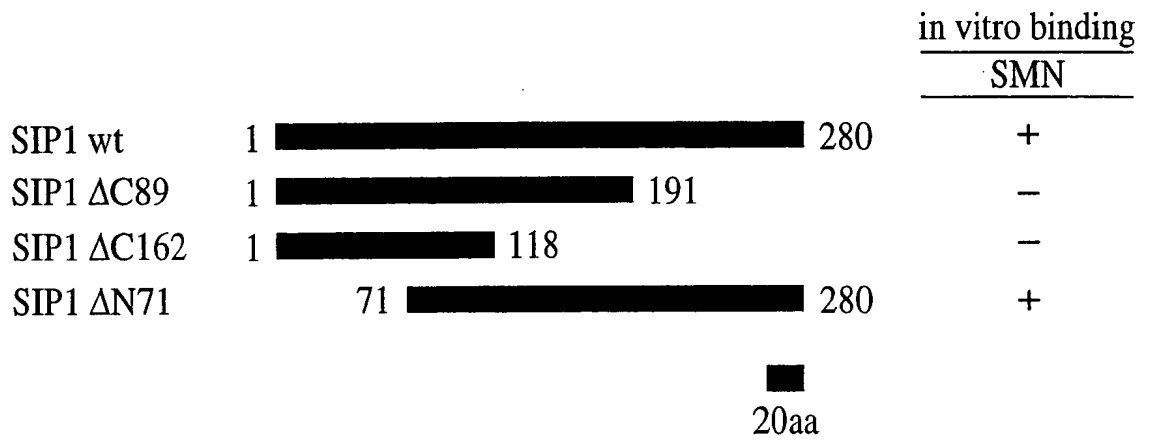


FIG. 45

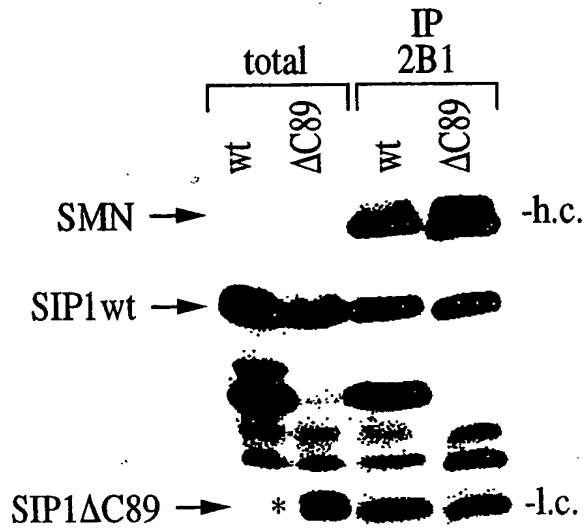


FIG. 46A

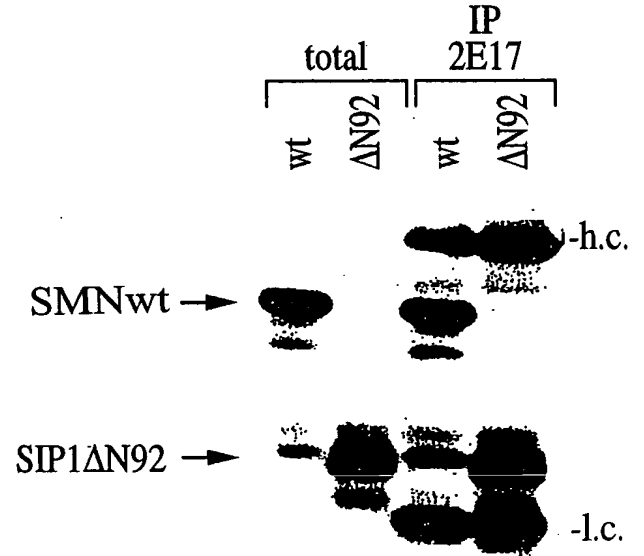


FIG. 46B

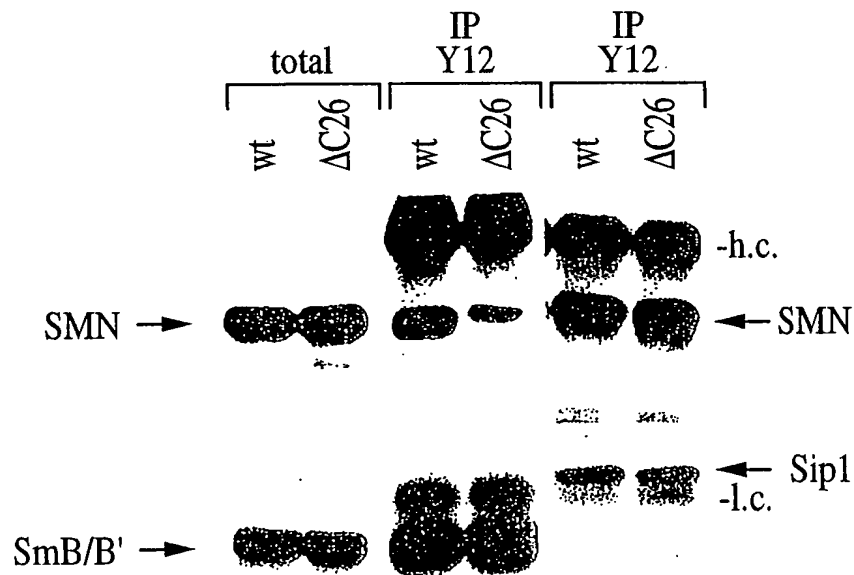


FIG. 47

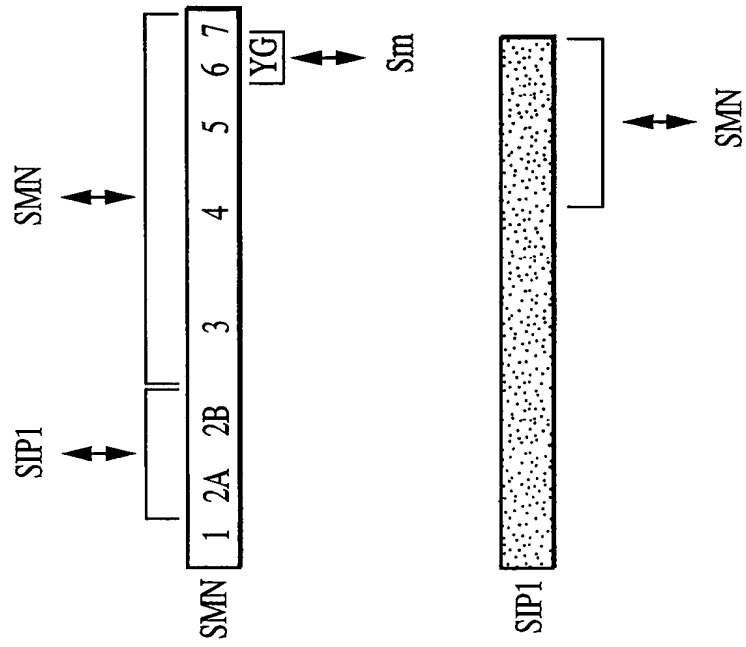


FIG. 48

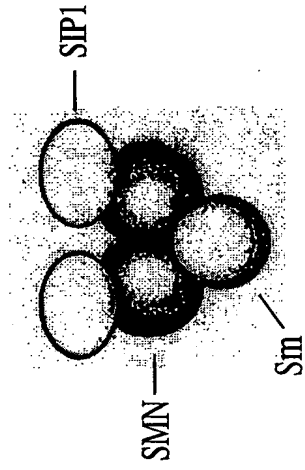


FIG. 49

FIG. 50A

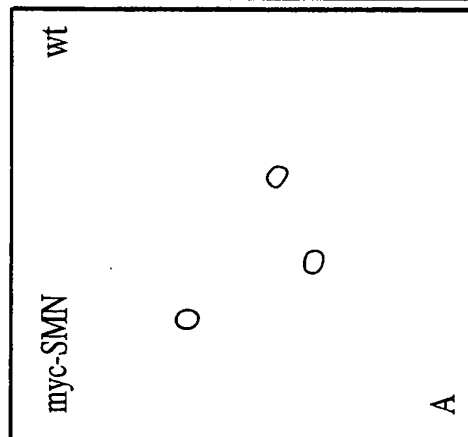


FIG. 50B

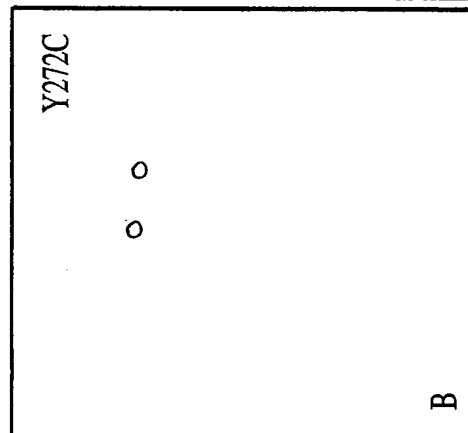


FIG. 50C

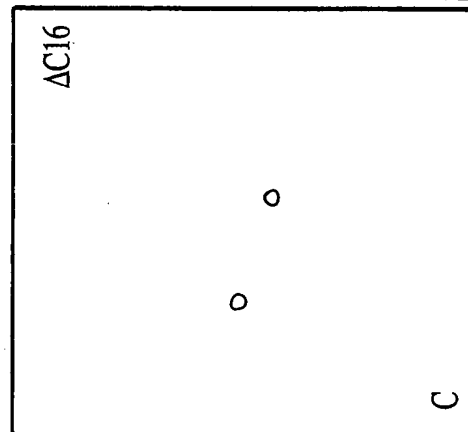


FIG. 50D

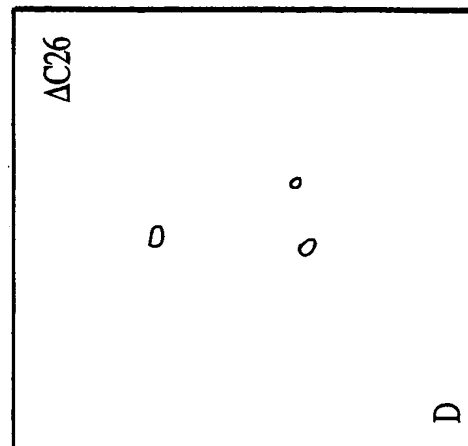


FIG. 50E

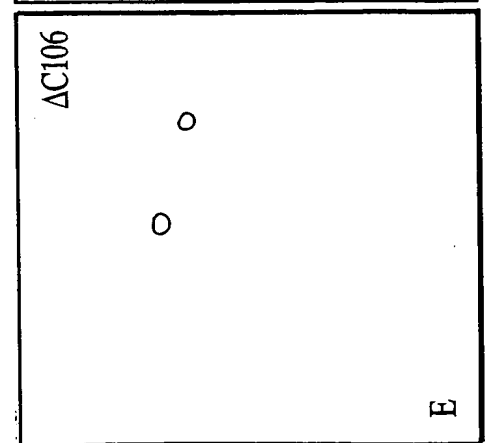


FIG. 50F

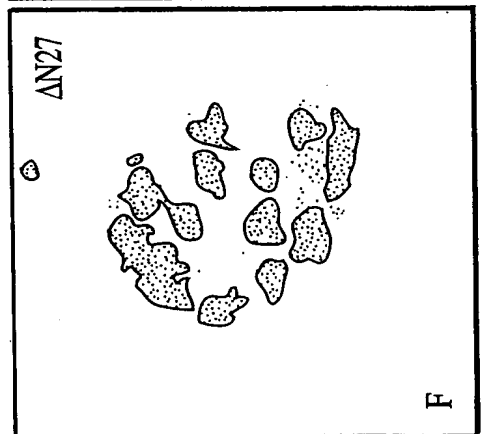


FIG. 50G

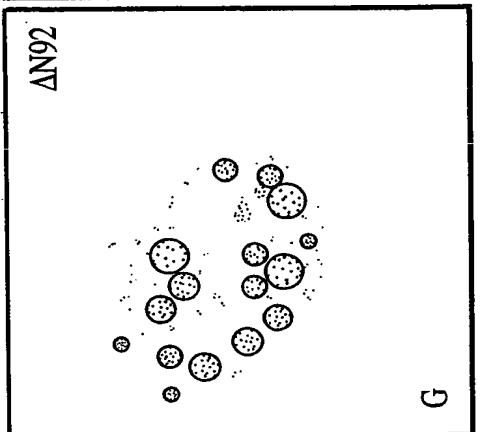


FIG. 50H

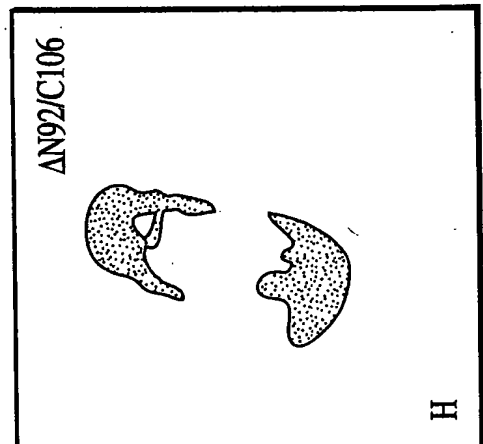


FIG. 51A

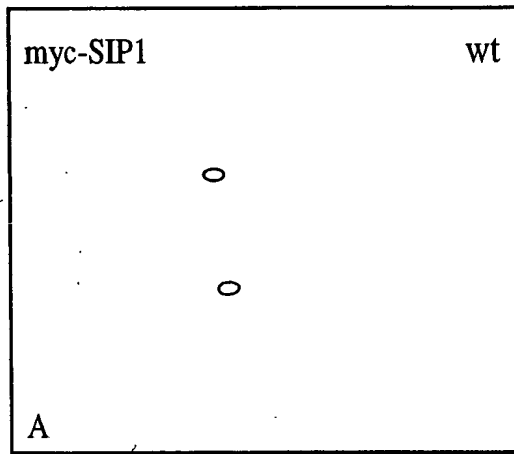


FIG. 51B

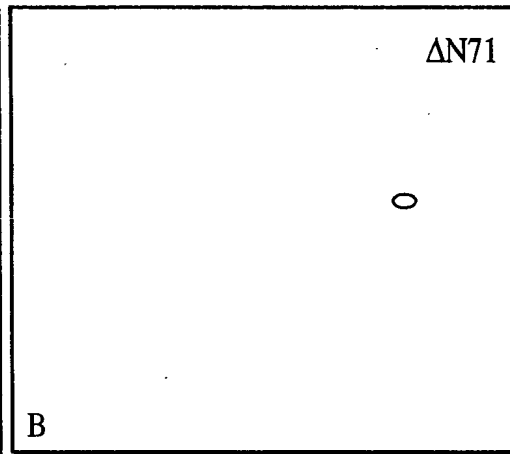


FIG. 51C

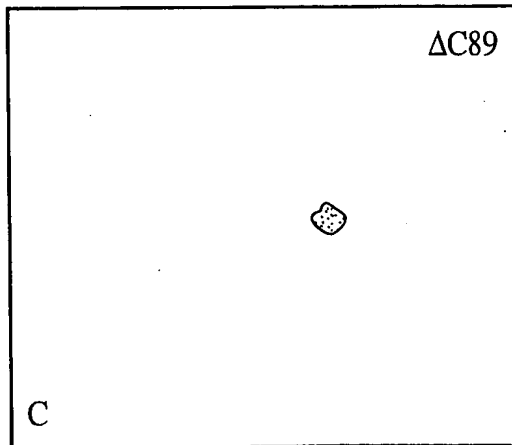


FIG. 51D

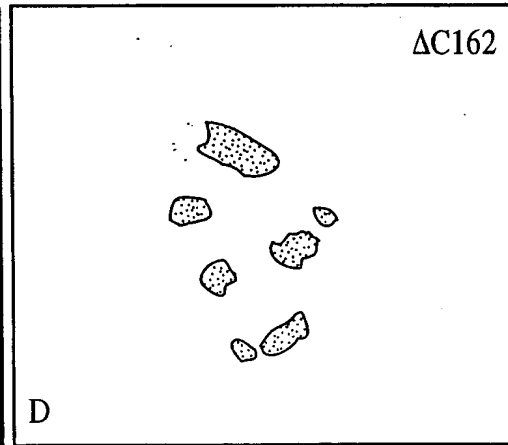


FIG. 52A

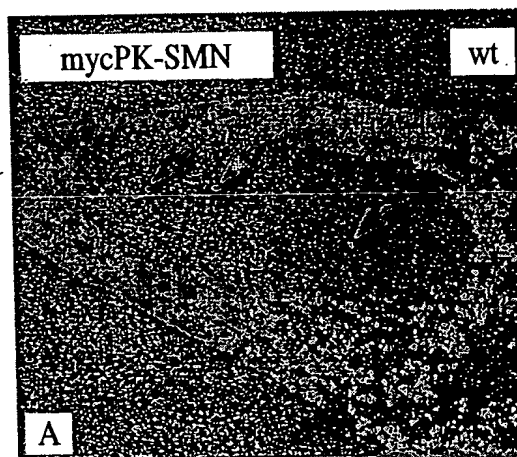


FIG. 52B

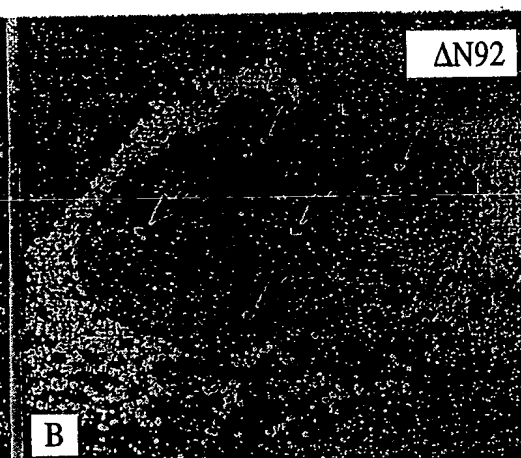


FIG. 52C

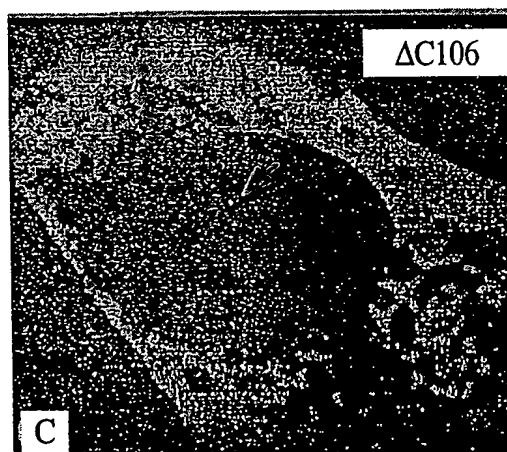


FIG. 52D

